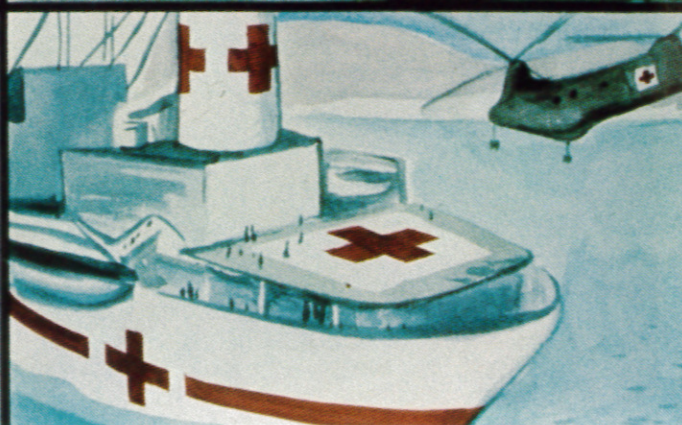




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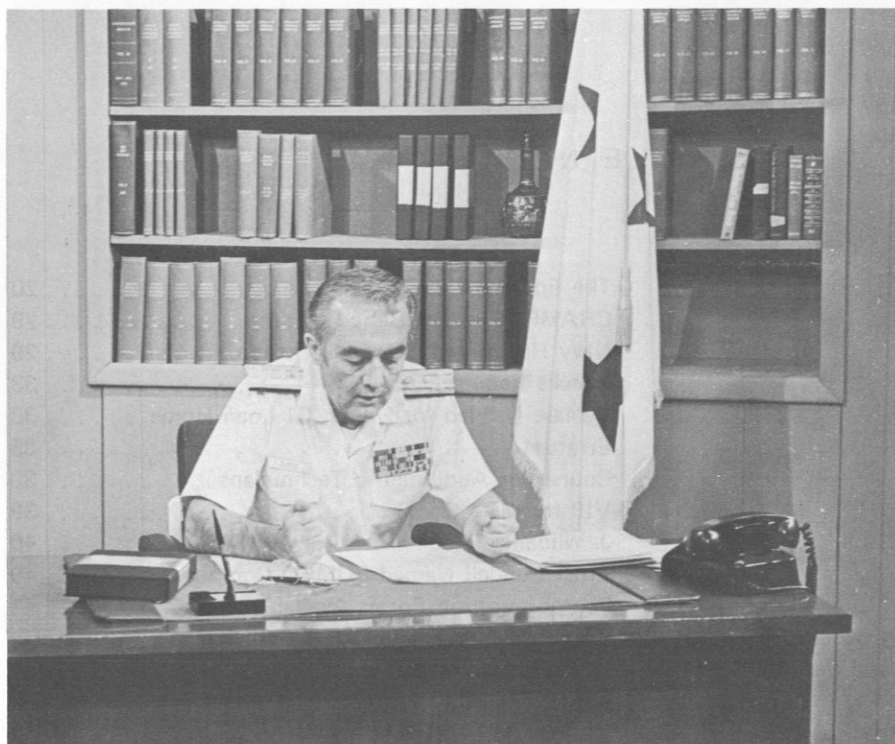
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from the Chief

I am convinced that the single most important factor which will ensure the Navy Medical Department's survival and eventual renewal is the number of our people who will welcome the future and the changes it may bring to Navy health care, and who are ready and eager to help shape that future. John Gardner emphasizes this point when he states that nothing affects attitudes toward the future more powerfully than what might be termed "self images of growth." The society, organization, or individual that sees itself as young and growing will look eagerly to the future. Although we will not ignore the past — we should consult it often in service to the present and the future — our dominant orientation must be to the future.

Several of the events which will impact on or shape the Navy's health care environment, now and in the future, have occurred or are close at hand:

- The Variable Incentive Pay Bill has finally been passed.
- The Uniformed Services University of Health Sciences will soon be a functioning reality.
- The intent of several influential forces outside of the Navy is slowly crystallizing; we should soon know whether their goal is to strengthen the Navy (military) Health-Care

System, or if they will in fact be the architects of our demise.

- The reorganization of the Bureau is near completion.
- We will soon have a training command directing all health-care training in the Navy.
- Our research efforts will be centralized under a single command.
- An Assistant Chief for Operational Support has been designated.
- Several of the remaining portions of the Bureau will be reorganized to improve support of our field commands, and our capability to plan, manage and direct the Medical Department.

Because the events I have briefly touched upon are so profoundly important to all of us in Navy health care and the Navy at large, I have decided to more fully address them and others of equal importance, in a BUMED SITREP. I hope to put them into a perspective that will give every member of the Medical Department a clearer picture of where we are, and where we are going as a military health-care organization, so that every member will be better able to make more meaningful contributions to shaping our future.

Abraham Lincoln stated it well when he said, "If we could first know where we are and whether we are tending, we could better judge what to do and how to do it." Those words apply to every member of the Medical Department at every organizational level. The SITREP titled, "The Navy Medical Department — A Perspective," will be designed to improve our ability to "better judge what to do and how to do it," so that the many among us who welcome the future and the changes it may bring to Navy Health Care, can get on with shaping that future.

I hope that each of you will be able to watch this SITREP, and I will welcome your comments after you have done so.



FLEET MEDICAL CARE

By **RADM E.J. Rupnik, MC, USN***

Gentlemen, it is a pleasure to take part in this symposium. For the next few minutes I am going to talk about fleet medical care — what it is, the people it supports, how they are supported, and how the electronic industries can contribute to the improvement of this support.

The Department of the Navy is comprised of: the departmental headquarters of the Navy and Marine Corps; the shore establishment, and; the operating forces of the Navy, including the Aviation and Fleet Marine Forces of the Navy and Marine Corps. The Navy Medical Department exists to support the operating forces. It is a health care delivery system designed, manned, and equipped to provide the health care needs of the Navy and Marine Corps. Special emphasis is placed on providing this care to the men and women in the operating forces worldwide, ashore and afloat, during peace and war.

Each of our Navy forces — our surface ships, the submarine service, the Naval and Marine Corps aviation

forces, and the Fleet Marine Forces — has unique requirements for health care. The health-care spectrum ranges from the support provided by an independent-duty hospital corpsman in a small ship or with a Marine Corps squad on patrol, to the sophisticated care and treatment provided in Naval hospital ships, conventional hospitals, and medical centers.

At the present time there are approximately 500,000 men in the Navy and 200,000 men in the Marine Corps. These forces must be capable of prompt response for national defense. Sea control, forward deployment, and the projection of forces ashore are primary Navy and Marine Corps missions in support of national goals and strategies. Fleet medical care is administered by approximately 4000 Navy doctors, 2000 nurses, 1800 Medical Service Corps officers, and about 24,000 enlisted hospital corpsmen. The primary job of Medical Department personnel is to provide routine care, first aid, triage, resuscitation, and definitive, restorative and rehabilitative care to the operating forces of the Navy and Marine Corps.

To satisfy specific operational missions, the combat forces of the Marine Corps are organized from selected air and ground task forces. Amphibious operations involve: the assembly of an assault force, transit to the area of operation, and movement ashore. The assault itself may be mounted by air using helicopters, or by surface using landing craft, or by a combination of

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RADM Rupnik prepared this address for delivery at the Electronic Industries Association Symposium on the Department of Defense in Human Resources and Medical Programs, to be conducted at Chicago, Ill., on 12 June 1974.

The opinions and assertions expressed therein are those of the author, and do not necessarily reflect the official views of the Navy Department or the naval service at large.

DIVERSITY OF NAVY HEALTH-CARE SUPPORT SYSTEM



A type of surface ship — USS *Canberra* (CAG-2).



Assault on land.



Jet aircraft takes off from carrier USS *Independence* (CVA-62), in the Caribbean Sea.



U.S. Navy Hospital Ship USS *Sanctuary* (AH-17).



Marines take off from landing craft to engage in amphibious assault on beach.



Naval Hospital, Portsmouth, Va.

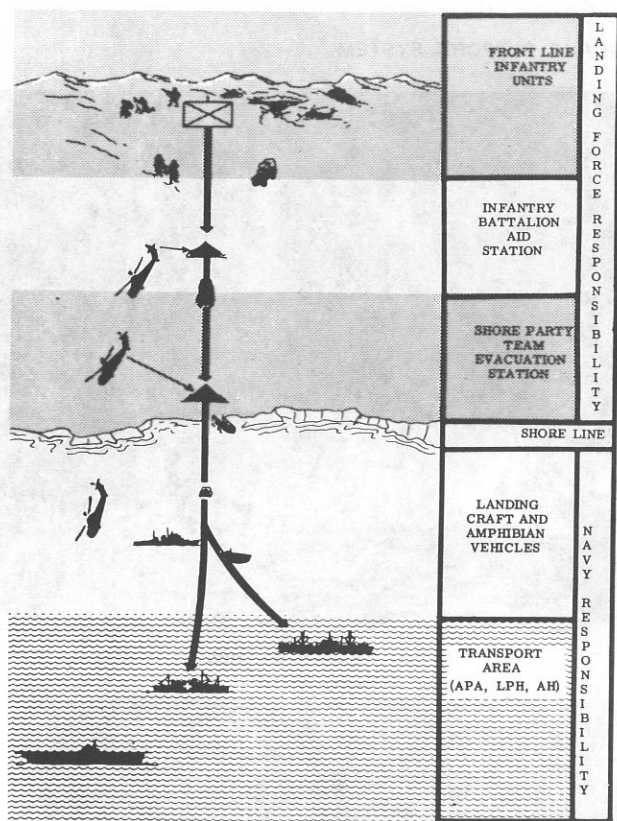


Figure 1.—Flow of Casualties in the Battalion Stage of a Landing.

the two. During the assault phase the landing force receives medical care from hospital ships, and from other ships with a casualty receiving and treatment capability, until airfield and shore facilities can be made available for treatment and evacuation. (See Figure 1)

COMMUNICATIONS

The basic elements in the development of an effective medical care delivery system are command, control, and communications. It is in these areas that improvements and innovations are particularly needed. Medical command and control of the medical phase of an amphibious operation is initially exercised by the amphibious force surgeon who is situated on a ship that has been designated as the logistic control center; when airfields and shore facilities are established, medical control and command is transferred ashore to the landing force surgeon. Substantial communication capability is required to effect the organized medical evacuation and regulation of sick or wounded marines, from the front lines by jeep ambulance, helicopter, boat, or aircraft to rear-area hospitals, hospital ships, and hospitals located in the United States. (See Figure 2) The communication system must be flexible and secure from enemy interference and espionage.

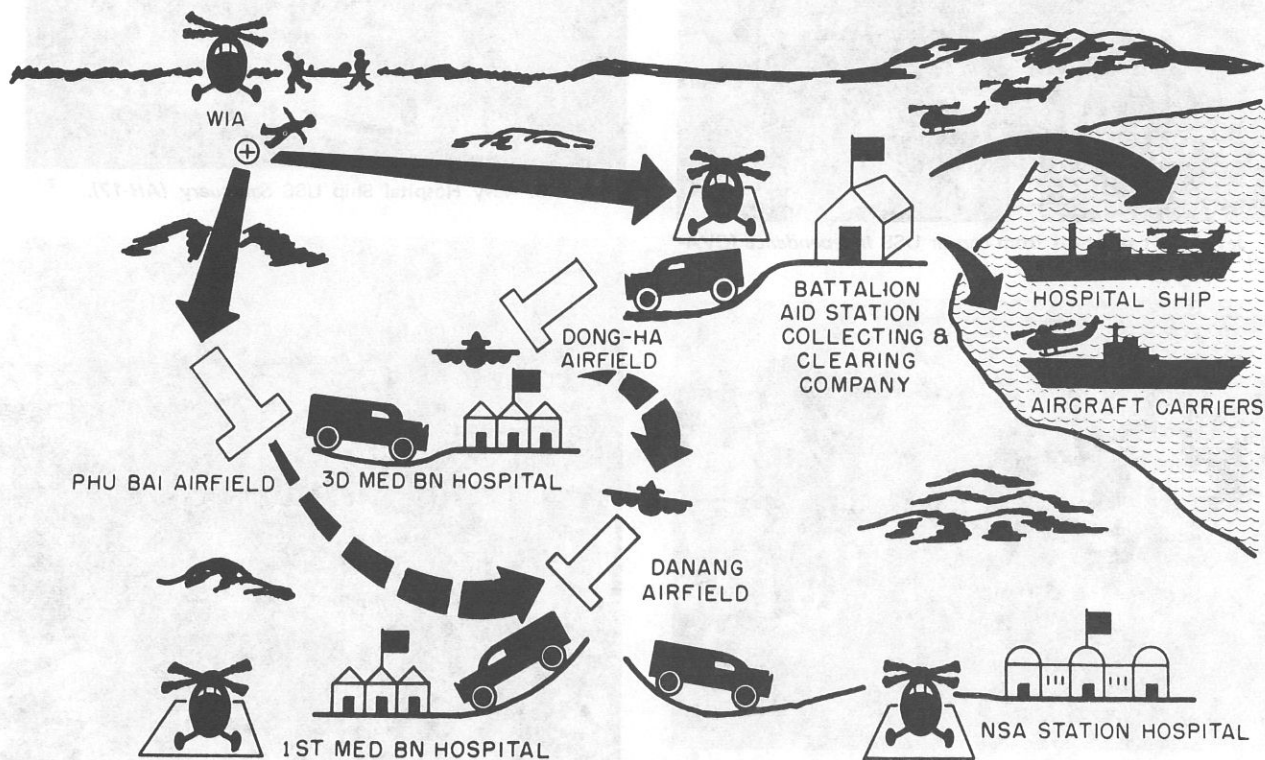


Figure 2.—Operation "HASTINGS" medical evacuation.

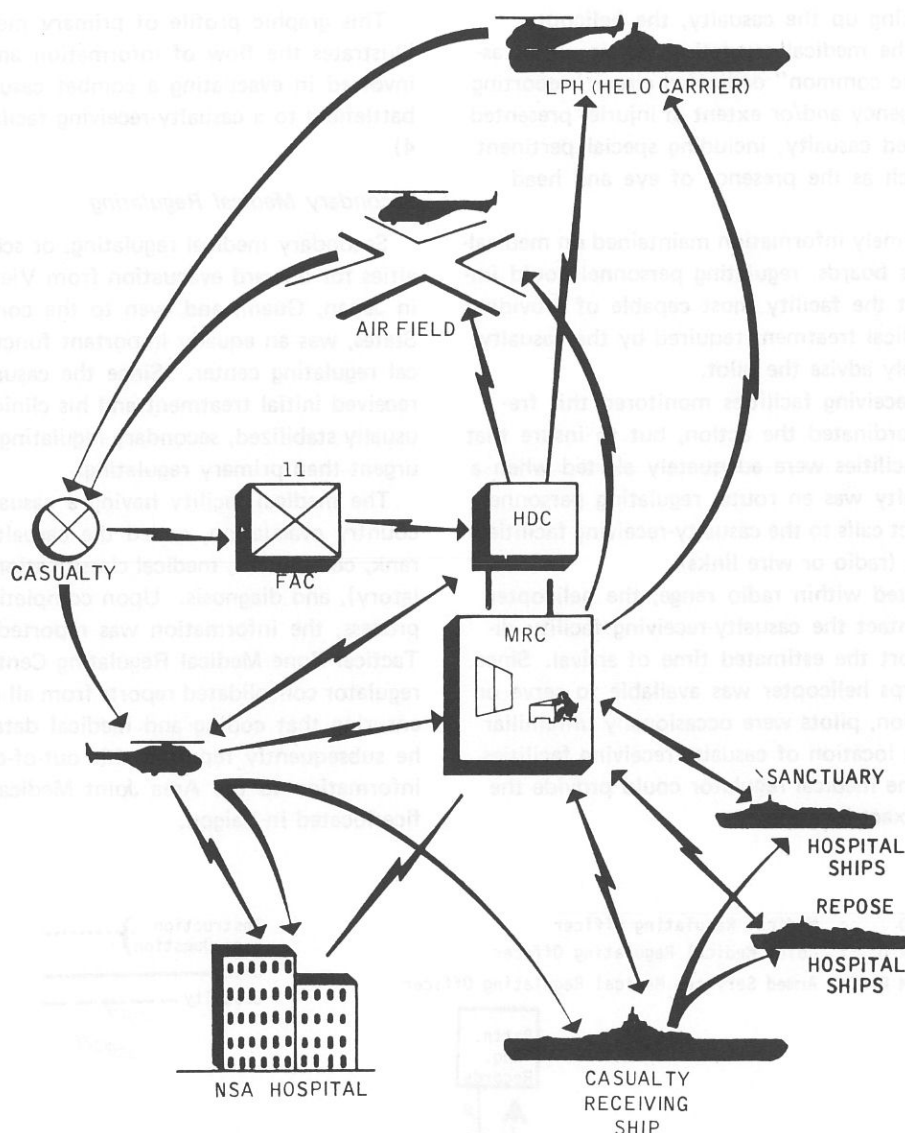


Figure 3.—Primary Medical Regulating (Navy/Marine Corps) in I Corps Tactical Communication Zone (ICTZ), 1969-1970.

Primary Medical Regulating

Medical regulating is a management system designed to ensure that all casualties, especially the acutely sick or wounded, receive the most expeditious and effective medical care possible.

A functional system for traffic management is essential when numerous treatment facilities are available, in order to properly match casualties with appropriate treatment resources. Traffic regulation works in two phases: primary regulating, wherein the distribution of casualties between the point of injury and the initial medical-treatment facility is controlled, and; secondary regulating, governing the subsequent distribution of

casualties to other medical facilities, including those in the continental United States.

The fundamental procedures that were used by Navy regulating personnel in Vietnam, for collecting and delivering casualties from the point of injury to an appropriate medical-treatment facility (see Figure 3), were as follows:

- A call for medical evacuation was generated normally by the forward air controller serving with combat troops, via tactical communication networks, to the appropriate Marine Corps Helicopter Direction Center (HDC). The HDC directed the duty medevac, or a helicopter on a logistic mission to pick up the casualty.

● After picking up the casualty, the helicopter pilot notified the medical regulation center on an assigned "medevac common" dedicated circuit, reporting the number, urgency and/or extent of injuries presented by the embarked casualty, including special pertinent information such as the presence of eye and head wounds.

● Utilizing timely information maintained on medical-regulating-status boards, regulating personnel could immediately select the facility most capable of providing the precise medical treatment required by the casualty, and appropriately advise the pilot.

● Casualty receiving facilities monitored this frequency and coordinated the action, but to insure that the receiving facilities were adequately alerted when a particular casualty was en route, regulating personnel also placed direct calls to the casualty-receiving facilities by other means (radio or wire links).

● When located within radio range, the helicopter pilot would contact the casualty-receiving facility directly, and report the estimated time of arrival. Since any Marine Corps helicopter was available to serve on a medevac mission, pilots were occasionally unfamiliar with the precise location of casualty-receiving facilities. In such cases, the medical regulator could provide the pilot with the exact location.

This graphic profile of primary medical regulating illustrates the flow of information and the activities involved in evacuating a combat casualty, from the battlefield to a casualty-receiving facility. (See Figure 4)

Secondary Medical Regulating

Secondary medical regulating, or scheduling of casualties for onward evacuation from Vietnam to hospitals in Japan, Guam, and even to the continental United States, was an equally important function of the medical regulating center. Since the casualty has already received initial treatment and his clinical condition has usually stabilized, secondary regulating is ordinarily less urgent than primary regulating.

The medical facility having a casualty for out-of-country evacuation, coded the casualty according to rank, component, medical classification (litter or ambulatory), and diagnosis. Upon completion of the coding process, the information was reported to the I Corps Tactical Zone Medical Regulating Center. The medical regulator consolidated reports from all medical facilities, ensuring that coding and medical data were accurate; he subsequently reported this out-of-country casualty information to the Area Joint Medical Regulating Office located in Saigon.

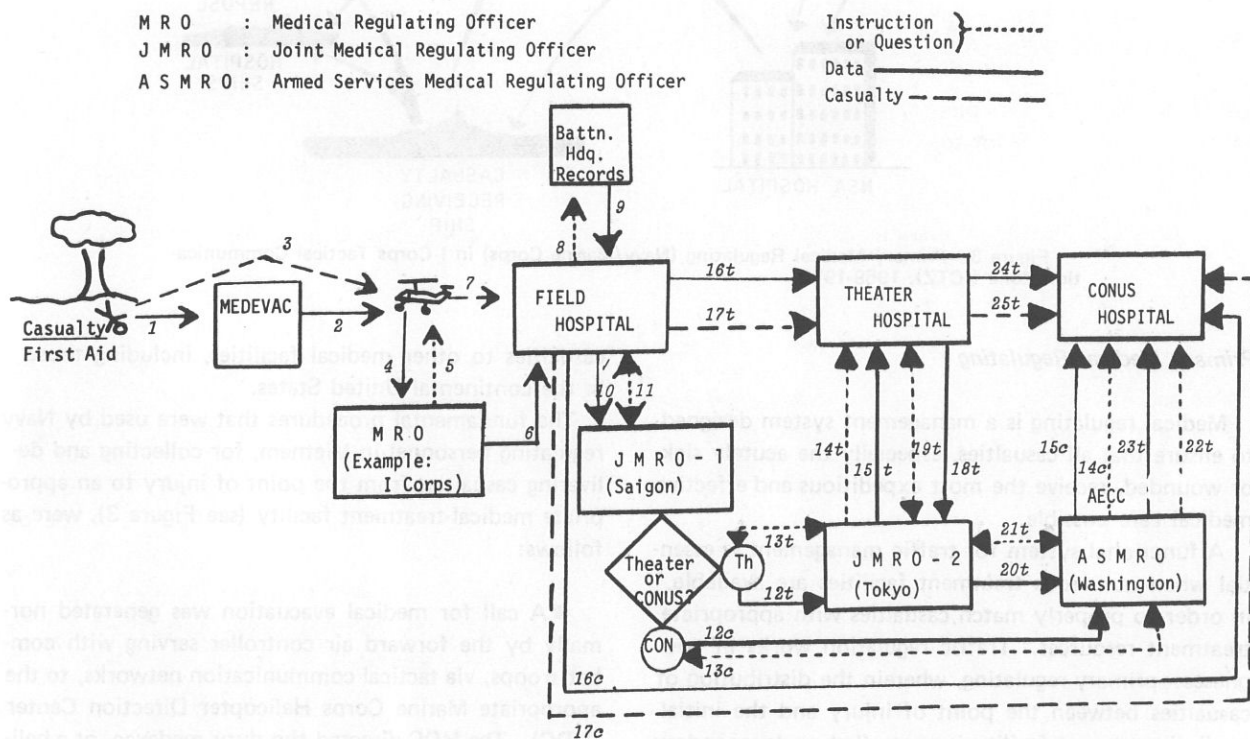


Figure 4.—Flow diagram of casualty, records, and instructions, from injury through final treatment.

On a daily basis, each of the ten hospitals located in the Pacific Command (PACCOM) notified the Far East Joint Medical Regulating Office in Camp Zama, Japan, of available staff specialists and bed capacity at a given hospital. This daily information kept the Area Joint Medical Regulating Office in Saigon sufficiently acquainted with the day-to-day capabilities of the 10 PACCOM hospitals. Before assigning any given casualty to a hospital, and so advising the Primary Regulating Facility, the Area Joint Medical Regulating Office could therefore intelligently balance the availability of treatment facilities against the casualty requirements. The Area Joint Medical Regulating Office in Saigon also maintained daily contact with the central medical regulating agency in CONUS (continental limits, U.S.A.), the Armed Services Medical Regulating Office (ASMRO), which regulated the movement of casualties into specific hospitals in CONUS. This office is responsible not only for the movement of casualties from overseas to hospitals within CONUS, but also for the movement of patients between medical facilities within CONUS. When assigning a casualty to a specific hospital, several factors had to be considered, beyond the location of a hospital in CONUS or PACCOM. The specialty capabilities required for optimum medical treatment of the casualty, the likelihood of return to duty by the casualty, and his immediate prognosis for the impending air travel, were all factors to be considered in arriving at a suitable hospital designation.

In past wars, about 50 to 80 percent of the wounded-in-action, and 20 to 25 percent of the disease and non-battle casualties in the combat theater, have required evacuation to CONUS for specialty or long-term medical care. BUMED, alone, has nine special treatment centers; about 20 other general hospitals are located around the United States, where patients can be transferred by the Air Force, through the aeromedical evacuation system for specialty or prolonged medical care. In essence the system provides: control of patient movement by air transport; specialized medical attendants and equipment for inflight medical care; facilities on, or in the vicinity of air strips, for the limited medical care of in-transit patients, and; communication with destination and en-route medical facilities concerning patient-airlift movement. This system is not as simple as the commercial Ticketron or airline ticket-reservation system, and although this responsibility is within the purview of the Air Force, I believe I can safely say that it is considered an area requiring improvement and simplification. Ideally, the combat patient will be transferred to a hospital near his family and home, for the specialized or prolonged medical care which he needs.

AUTOMATIC DATA PROCESSING

Present methods of patient-data compilation make it extremely difficult, if not impossible to locate a patient in the system. Treatment is accomplished at various stages along the line: in the field, at the casualty receiving ship, at the logistic command center, at intermediate stations, and at the hospital designated for final care. Navy medical data can be described basically as: data which must be fed forward for administrative or medical purposes; data which must be fed back to doctors who have previously treated a patient, and; data which is extracted for statistical analysis, or assessment of treatment procedures. Timeliness is the key element for the effective use of medical data; if it is not available to the physician when he needs it, the data is of little value. The present system does not allow for meaningful feedback to intermediate-care centers in order that on-site physicians may evaluate the results of their treatment. In conjunction with the Naval Electronics Command, BUMED is evaluating these problems. The major effort up to this point has been the identification of problems, an assessment of the present medical-data collecting system, appraisal of automated medical-record and trauma-data systems, and a preliminary attempt at suggesting solutions for these problems.

HOSPITALS AND MEDICAL FACILITIES

Another problem area which we face is the provision of a facility in which medical care may be administered. Medical support should be situated as close to the front lines as possible. To meet this objective we provide fleet medical care facilities which include ships, tents, advance base functional components, modular components, and hospitals located in the United States.

Hospital Ships

The patient would be best served if BUMED could provide definitive care and treatment directly on the front lines, but the combat environment, and present Navy and Marine Corps assets do not always permit that option. The USS *Sanctuary* is the only active survivor of six World War II maritime administration ships that were converted to hospital ships. The design and space layout of the *Sanctuary* was originally conceived for casualty evacuation rather than for on-site definitive treatment. BUMED has plans for construction of a new type of hospital ship that would afford: a safe and easy method for receiving patients by sea or air, adequate space for rapid triage, and a logical flow of patients through the required treatment and diagnostic centers. Since limited funds and the

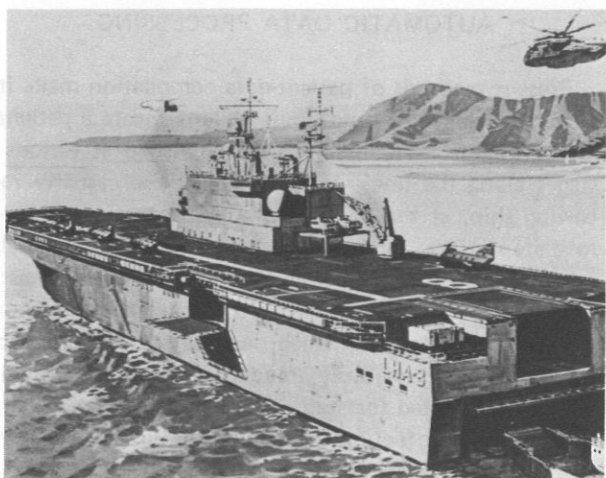


Photo No. 1—Artist concept of LHA amphibious assault ship.

competition for shipbuilding needs have delayed this effort, construction of a 300-bed emergency hospital in the LHA amphibious assault ship was selected as an alternative to the construction of dedicated hospital ships.

LHA Ships

Five LHA amphibious assault ships are currently being built by Litton Industries at Pascagoula, Miss., with delivery to the Navy scheduled between March 1975 and December 1976. (See photo No. 1) The LHA is a large ship which externally resembles an aircraft carrier. The LHA can transport most of the elements of a marine amphibious unit (about 1500 assault troops), plus the helicopters, boats, and amphibious vehicles required to land forces by air or sea.

The carefully designed medical spaces are large and include: four major, and two minor operating rooms; 60 primary hospital beds, including an intensive-care area; and a 240-bed specially configured overflow ward. Dental spaces contain one oral surgery operating room; two general dental operating rooms; and supportive diagnostic, patient management, and treatment facilities.

Field Medical Facilities

The basic field marine medical support facilities consist of a 20-bed aid station, and a 60-bed collecting and clearing company hospital; these are set up in tents for emergency care and resuscitation. Other field medical facilities used by the Navy and Marine Corps are the advance base hospitals, and the Medical Unit Self-Contained, Transportable (MUST) hospital. (See photo No. 2) The advance base hospital is a tool of naval logistics. It is an assembly of materiel and personnel



Photo No. 2—Ward component inside inflated MUST hospital.

to satisfy emergency medical support requirements overseas. Basic construction consists of Quonset huts erected on concrete foundations. Advance base medical facilities are constructed on a building-block principle, and can range from a 50-bed station hospital to a 1000-bed hospital. These facilities can be staffed and equipped to resemble hospitals in the U.S., but construction requires from six to eight months to complete.

The MUST hospital is a self-contained system of expandable and inflatable shelters with a utility element that supplies electrical power, refrigeration, heating or cooling, water pumping, and compressed air or suction. When folded for transportation the MUST elements consist of boxes that measure approximately 12 ft. long, 7 ft. wide, and 8 ft. high. This standard Army field hospital is being introduced into the Marine Corps.

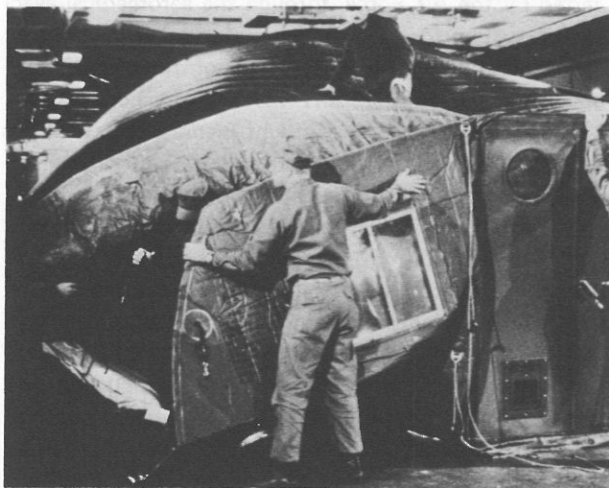


Photo No. 3—Assembly of MUST hospital aboard an LST ship.

The system can be installed almost anywhere, and BUMED has set up and tested these units aboard LST- and LSD-type ships to evaluate their potential for augmentation of existing shipboard medical facilities. (See photo No. 3) Use of the system is limited by the availability of amphibious ships, and the lack of appropriate sanitary and housekeeping facilities.

ENVIRONMENTAL PROBLEMS

The Navy shipbuilder always attempts to get the biggest bang for the buck. Weapons, electronics, and propulsion systems receive top priority in shipbuilding. An interesting aspect of ship design is the care and attention devoted to electronics equipment, which is housed in air-conditioned spaces where the air is 99.9%

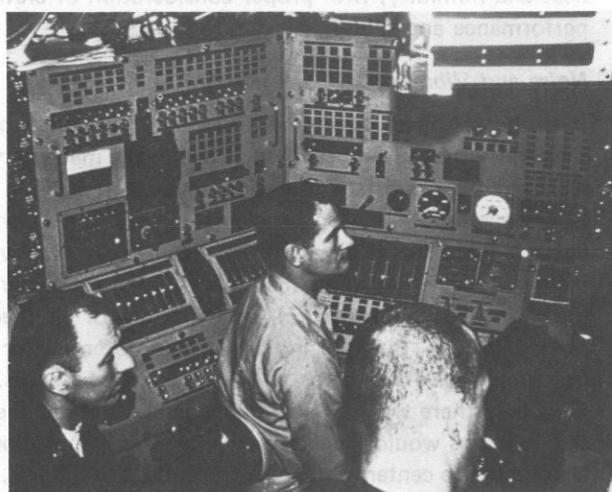


Photo No. 4—Computer center aboard ship. Air-conditioned spaces are needed for dependable function of the equipment.

pure. (See photo No. 4) The simplification of computers and electronic equipment used aboard ship, aimed at reducing size, cost, and heat-generation, would provide more space and funds for crew comfort. By the time the shipbuilder incorporates the required weapons, electronics, and propulsion systems into the ship design, limited funds and space remain for storage, habitability, recreational facilities, and hotel services. The sailor works and lives aboard ship; on extended deployments he cannot go home, or get away from the confinement imposed by the ship.

Significant shipboard environmental problems have been identified for examination and resolution. High heat and humidity represent major problems which have been identified in shipboard firerooms (See photo No. 5), laundries, and sculleries. Iron men and wooden

ships were acceptable in the old Navy, but today's young sailors expect air conditioning and do not adjust very willingly to standing watches, or working in spaces where the temperature exceeds 110°F. Beyond the heat problems aboard ship, there are heat stroke and heat exhaustion difficulties confronting marines in the field, during amphibious landings, and particularly during combat in tropical areas.

Heat Stress

Heat stress is a composite function of environment, level of activity, individual idiosyncrasy, and the ability of the body to compensate. The instrument used to measure environmental heat in firerooms aboard ship is the wet bulb globe temperature meter which simultaneously measures the wet bulb, dry bulb and globe temperatures, and integrates these readings into a single index. Radiant heat is a major contributor to the heat-stress problems encountered in ship firerooms, and an infra-red heat gun is used to identify and locate sources of radiant-heat escape.

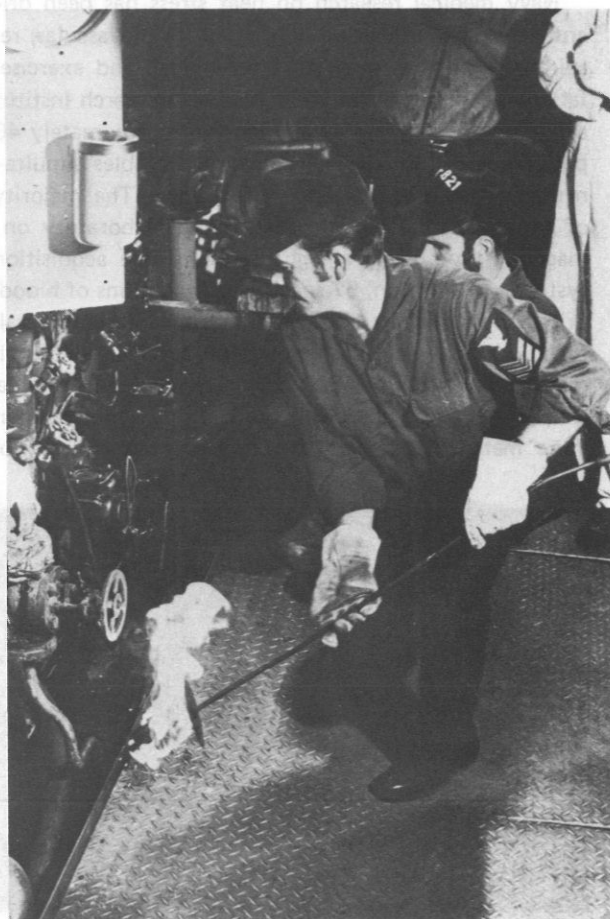


Photo No. 5—Boiler technician lights off coal-derived liquid fuel aboard USS *Johnson* (DD-821).

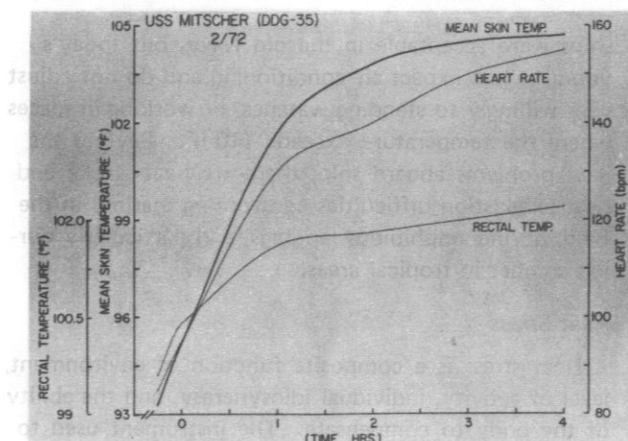


Figure 5.—Graph of test results aboard USS *Mitscher* (DDG-35).

Sweat rate, skin temperature, heart rate, and internal body temperature are indicators used to determine tolerance levels, and to measure human response to high temperature and humidity conditions. (See Figure 5)

Navy medical research on heat stress has been oriented toward integration of thermal cardiovascular, respiratory, metabolic, renal, biochemical, and exercise factors. Currently, the Naval Medical Research Institute at Bethesda, Md., is able to monitor approximately 40 physiological and 10 environmental variables simultaneously during heat-stress experiments. The majority of these variables are recorded by the laboratory on magnetic tape, using a high precision data acquisition system. In addition, 57 specific examinations of blood, urine, and sweat are conducted at appropriate intervals specified in a given study. By the application of this research investigation, BUMED has developed a simple chart that can be used with the wet bulb globe temperature meter to establish personnel exposure limits for



Photo No. 6—Jet aircraft takes off from flight deck of aircraft carrier USS *Saratoga* (CVA-60).



Photo No. 7—USS *Flagstaff* (PGH-1) rides through water on struts at high speed.

heat and humidity, with proper consideration of crew performance and safety.

Noise and Vibration

In the confined environment of ships, noise levels on the flight decks (See photo No. 6) and in the machinery spaces require constant attention to prevent hearing loss. Noise and vibration problems in ships at sea have become more significant with the recent Navy deployments of high-speed ships that ride through the water on struts (See photo No. 7), or a cushion of air (See photo No. 8). BUMED initially saw a potential for use of surface-effect ships as high speed ambulances. Originally there was cause to question what effect the ship motions would have on patients. Vertical motion is expected to center in the region from 0.2 to 3.0 Hz., with predominant energy in the 0.5 to 2.0 Hz. interval for a 2000-ton ship. Neither the scientific community which produces standards, nor the professional operators who command ships have yet established exhaustive

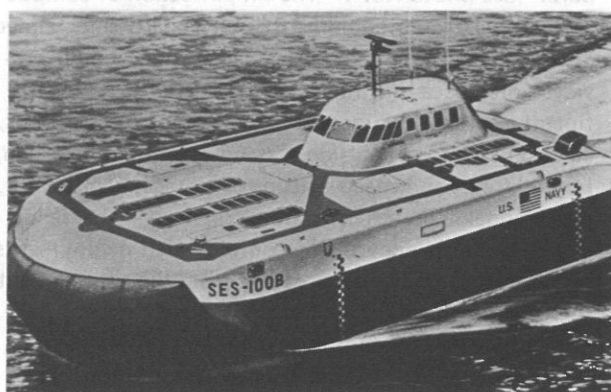


Photo No. 8—Artist conception of a Surface Effect Ship (SES) that rides on a cushion of air, presently under development by the Navy.

characterizing data regarding performance, or significant operational experience in this area of vibration frequency.

Ever since men went to sea, motion sickness has been a problem. Through use of a motion generator (See photo No. 9), BUMED-sponsored research has developed a mathematical model and formula for predicting the likelihood of sea sickness based upon acceleration, frequency of pitch, and heave-and-roll sea motions. Use of the model permits prediction of the

percentage of the crew that will acquire motion sickness under various sea conditions. It is considered that ship designers can use this information, to avoid ride characteristics that produce motion sickness in a large percentage of the ship's crew. This research was based upon conventional ship motions. BUMED now plans to use the motion generator to test subjects and electronic-measuring devices, for the purpose of determining ride characteristics and crew tolerance of the surface-effect ship that is currently being developed by the Navy.

Safety Monitoring

In ships and submarines, BUMED is concerned with industrial hazards and toxic atmospheres. Radiation safety must be assured for diagnostic examination and medical treatment, weapons, and propulsion systems. In submarines the living spaces must be constantly monitored to maintain acceptable levels of oxygen, carbon monoxide, carbon dioxide, freon, and ammonia.

In activity underseas man is constantly diving to deeper depths. Navy medicine must address the attendant environmental stresses of wetness, darkness and turbidity, physical exhaustion, and temperature and hydrostatic pressure. (See Figure 6) Human activity underseas is largely dependent upon the provision of suitable respiratory gas; whenever this maxim is violated, from preventive, diagnostic, and therapeutic points of view, Navy medicine becomes intimately concerned with the resulting problems in narcosis, toxicity, lung and eye tissues, decompression, and convulsive seizures.

During the world championship chess match, some of Spassky's backers accused Fisher and the U.S. of beaming low-level microwaves at Spassky, causing him

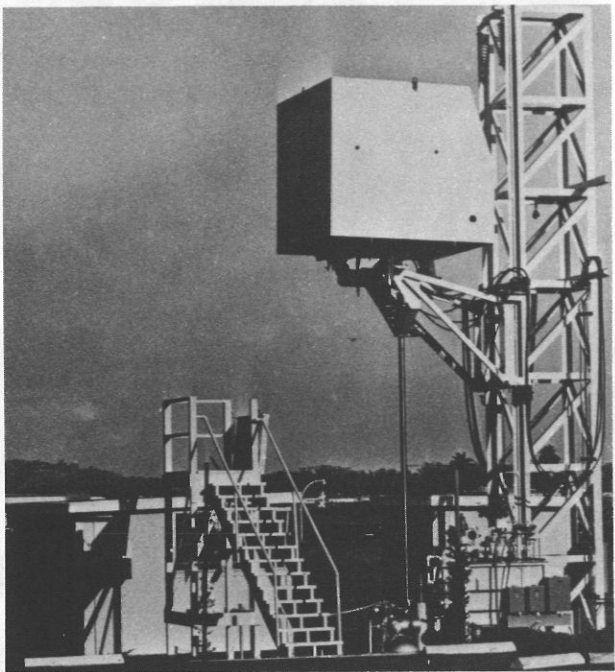


Photo No. 9—Motion Generator is used to simulate shipboard wave pitch-and-heave motions.

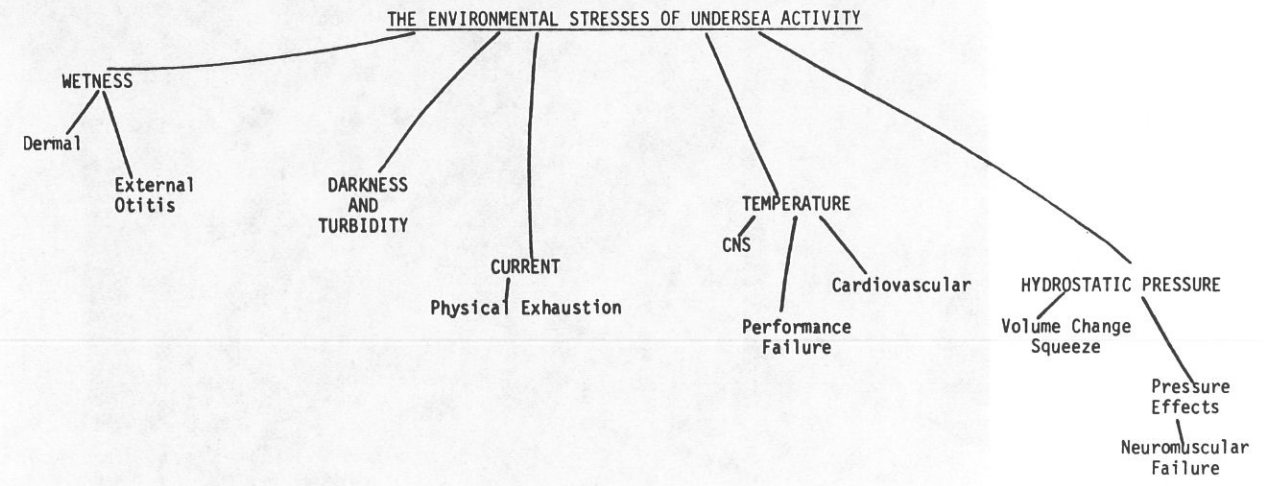
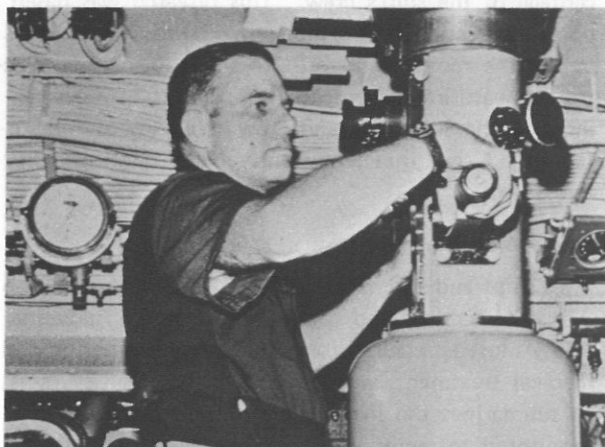
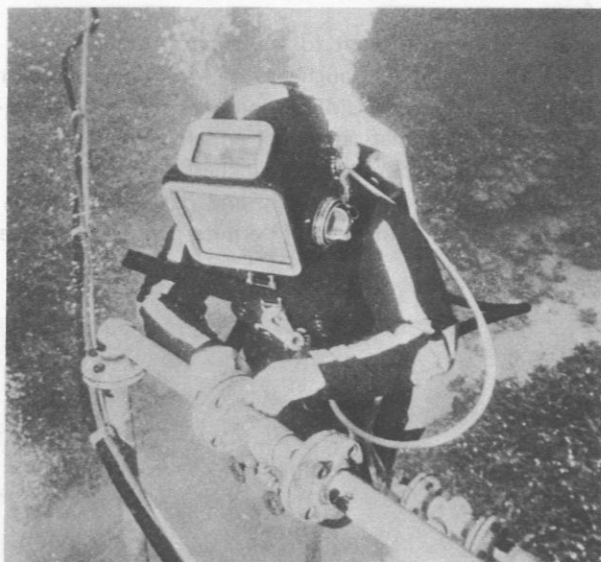


Figure 6.

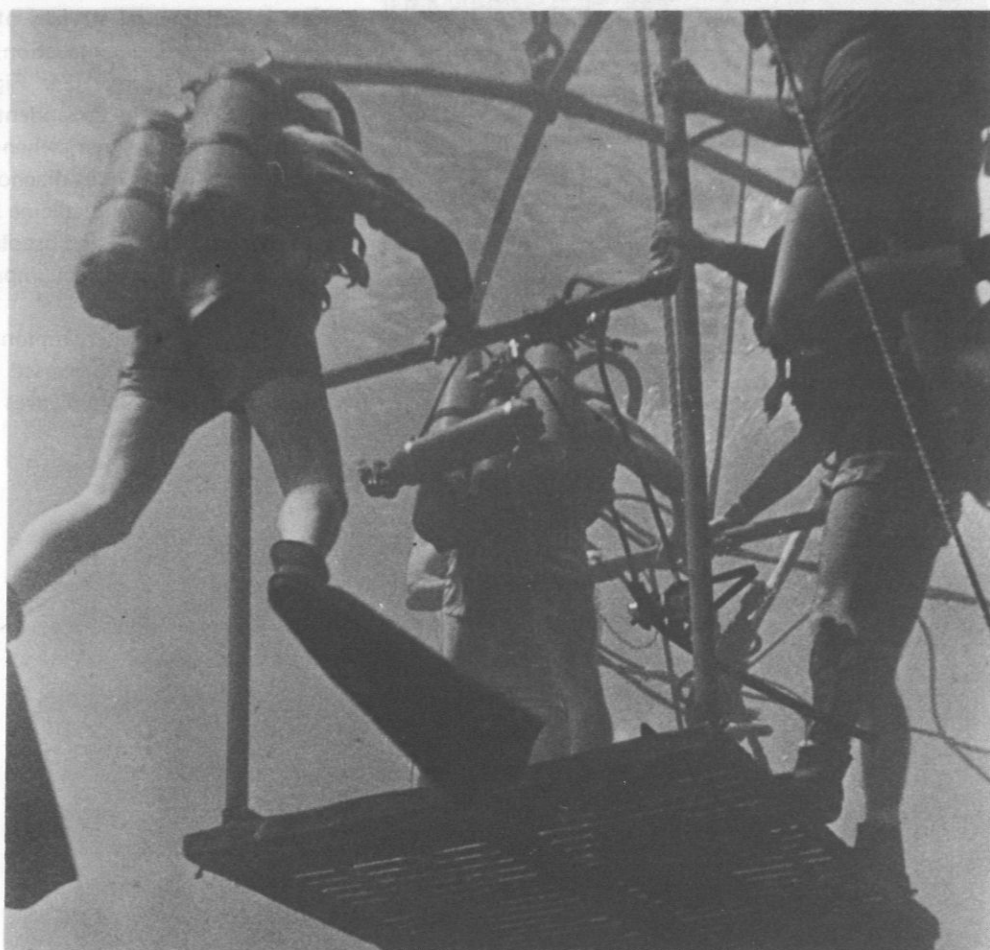
Safety monitoring and environmental stresses underseas confront Navy Medicine with problems in narcosis, toxicity, decompression, convulsive seizures, and involvements of lung and eye tissues.



In submarine USS *Ulysses S. Grant* (SSBN-631), acceptable levels of respiratory gas must be maintained in work and living spaces.



Navy diver at work



Navy deep-sea divers

to become sluggish and disoriented. This would appear to be an absurdly extreme measure for influencing the outcome of a chess match, but Navy medicine is actively concerned with the hazards that may emanate from such devices or operational systems as microwave generators, radar communication systems, lasers, and certain types of very high intensity searchlights.

In Korea and Vietnam the helicopter was used extensively to pick up casualties in the field, often only a few feet from where they were wounded, and to fly them directly back to rear-area hospitals. (See photos No. 13 & 14) Wounded men who would not have survived hours of surface-ambulance evacuation were saved by helicopter evacuation. But additional improvements in helicopter evacuation are required. Patient monitoring of pulse rate, blood pressure, and other vital signs is difficult or impossible in the helicopter, because of the hostile environment and lack of suitable measuring devices. Improvements in communication between patient-to-corpsmen, corpsmen-to-pilot, and helicopter pilot-to-medical regulating office are needed, yet communication and patient-monitoring equipment systems must not be permitted to interfere with the helicopter-navigation instruments.

CONCLUSION

I have talked today about command control and communications; medical regulating; automatic data processing; acquisition and retrieval facilities; environmental problems such as heat, noise, vibration, and toxicity; monitoring of vital signs, and; a better supply system. A fleet medical care system must be developed which would provide modules of equipment and supplies that can be rapidly deployed, either to augment an existing capability, or to provide for the medical-support contingencies of routine care, first aid, triage,



Photo No. 13—Evacuation of casualties by helicopter at Danang in Vietnam.



Photo No. 14—Rescue helicopter delivers casualty to hospital ship USS *Repose* (AH-16) off the coast of Vietnam in 1966.

resuscitation, and definitive care. The medical care and defense supply systems of today require an organized logistic structure of advanced communications and information-processing techniques, with line-item access to ware housed supplies.

In conclusion, electronic devices have great potential for improving fleet medical care, and for solving some of the existing Navy and Marine Corps medical problems. Fleet medical care is not only concerned with the same problems as those encountered in civilian medicine, but must also address the special and unique circumstances interposed by Navy and Marine Corps operational environments. The latter perspective is better appreciated if one understands that the primary mission of the Navy Medical Department is that of supporting naval and marine forces. It is a highly specialized and comprehensive mission for which there is seldom much precedent, or alternative. The impact of need and purpose, and the crippling influence of shortages in manpower and resources give some indication of the compelling need for your expertise. Gentlemen, I hope you will rise to the challenge. 🍀

A Study of the Factors Influencing Career Motivation Among Physicians and Dentists

In March 1973 all Navy physicians and dentists were asked to participate in a retention study, in the form of a questionnaire sponsored by the Surgeon General, and conducted by the Navy Personnel Research and Development Center in San Diego, Calif. The following is a summary *quoted* from the results of that study:

Problem

The Navy has, for some time, depended upon Selective Service draft pressure to ensure an adequate supply of physicians, dentists, and other medical specialists that are needed to provide medical and dental care for Navy personnel, and their dependents. The abolition of the Doctor Draft has seriously challenged the Navy to devise alternative means of procuring and retaining physicians and dentists.

Purpose

This study was conducted to identify job satisfaction and incentive factors that contribute to the retention of Navy medical and dental officers, and to evaluate the efficacy of selected administrative and legislative proposals in encouraging qualified physicians and dentists to remain with the Navy.

Approach

A mail questionnaire was administered to every active duty physician and dentist in the Navy in early March 1973. Eighty-five percent of the dentists and 81% of the physicians returned completed answer sheets. The respondent samples are considered representative of the physician and dentist populations by rank.

Findings

As a group, Navy physicians and dentists tend to hold the Navy's specialty-training and health care delivery systems in relatively high regard. Career motivated respondents rate these systems better than do non-career-motivated respondents.

Physicians and dentists differ widely in the extent of their career motivation. Forty-seven percent of the physicians plan to leave active duty at the earliest opportunity, while 36% are undecided. Only 17% plan to remain on active duty until retirement. The dentists are considerably more career motivated. Thirty-six percent plan to remain on active duty until retirement, 40% are undecided, and only 23% plan to get out as soon as possible.

Although Selective Service draft pressure induced the majority (59%) of physicians to volunteer for active service in the Navy, only 20% of the dentists reported having been so induced. The opportunity for income while contemplating future plans, and the availability of advanced education and training accounted for the nondraft motivation of one-half of the physicians. The former factor, along with the opportunity to obtain practical experience accounted for the nondraft motivation of almost 60% of the dentists.

Physicians and dentists generally found their first duty station experiences and conditions to be similar to what they had anticipated. Some factors, such as amount of personal responsibility (physicians) and progression in professional knowledge (dentists) were better than expected, while others, such as participation in

decisions affecting one's career (physicians and dentists) were worse than expected.

Dentists expressed greater satisfaction than physicians with various aspects of Navy life. The dentists were somewhat more likely to perceive the Navy to be instrumental to their goal attainment than were the physicians. Dentists without specialty training and all physicians were of the opinion that, everything considered, they would be more likely to obtain goal satisfaction outside the Navy.

The respondents expressed particular dissatisfaction with such items as remuneration, quality of facilities and equipment, and the amount of participation they had in making decisions affecting their careers.

Both physicians and dentists rated the supervisory capability of their superiors high. Junior officers were described as competent, but lacking an appreciation of the administrative aspects of medicine.

Navy patients were reported to be courteous, respectful and cooperative. However, they did not always make intelligent use of the available services. Physicians in particular complained that their patients were prone to make unnecessary visits.

The respondent spouses' attitudes were related to the physicians' and dentists' career decisions. The correlation between having a "pro Navy" spouse and being career motivated was 0.69 for physicians and 0.72 for dentists.

The respondents were asked to help evaluate a number of proposals designed to encourage them to remain in the Navy. Remuneration, continuing education and information exchange, upgrading of equipment and facilities, and stability of assignments were the areas in which implementation of desired changes would most likely lead to improved retention.

Conclusions

1. The recruitment and retention picture is brighter for the Dental Corps than for the Medical Corps.
2. Physicians and dentists have similar aspirations.
3. With appropriate action, more than half of the physicians and more than three-fourths of the dentists now on active duty can be retained.

Recommendations

The following recommendations are based upon the Survey Data:

1. The feasibility of establishing a remuneration system tied to what physicians and dentist peers are earning in civilian practice, with additional amounts added for specialty certification, supervisory responsibility, sea duty, and other arduous or unpopular duty should be investigated.

2. Remuneration for junior medical officers needs to be increased as an interim retention measure.

3. Alternatives to the present rank system for medical and dental practitioners should be investigated. However, some sort of hierarchical structure may need to be retained.

4. Continuation Pay for dentists should not be eliminated.

5. Systemic alternatives to the present health care delivery system should be investigated. The objective would be to maintain high quality patient care while reducing the number of active duty practitioners needed to do the job.

6. Professionalism should be emphasized.

7. Funds for attendance at professional meetings should be guaranteed and set aside for that purpose.

8. Greater information exchange among Navy physicians should be encouraged.

9. Individual participation in decisions affecting the practitioner's career should be increased.

10. Long-range career planning and counseling should be instituted.

11. Aging facilities should be renovated or replaced.

12. Provisions should be made to provide at least as many examining rooms as examining physicians.

13. Office spaces should be provided for all medical and dental officers.

14. At least one chairside dental technician should be provided for each clinical dentist.

15. The establishment of general dentistry as a Navy dental specialty should be considered.

16. Implementation of new procedures allowing patients to see the same practitioner on subsequent visits should be accelerated.

17. Patients should not be allowed direct access to specialists without proper screening.

18. Specialists should not be asked to take turns in general practice.

19. Better quality control for corpsmen should be established.

20. Feasibility of establishing doctor-corpsmen teams should be investigated.

21. Measures designed to curb unnecessary visits and nonemergency use of the emergency room should be enacted.

22. The stability of assignments should be increased.

23. Volunteer pools of practitioners to serve short tours aboard ship should be established. Insofar as possible, all assignments to sea duty should be made from these pools.

24. Foreign-trained physicians should not be recruited.

25. All moonlighting should not be prohibited. — (Through the courtesy of BUMED, Code 317A).

Drug Abusers:

Some Preliminary Findings

By **LT David F. Reinhart, MSC, USNR,**
LT Walter P. Shepherd, MSC, USNR, and
HM2 David L. Curtis, USN;
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NAS Jacksonville, Florida 32212.

Like their civilian counterparts, military men and women reflect the strengths and strains presented by society at large. The past decade has seen the growth and spread of drug abuse throughout the United States. In response to a Presidential directive a variety of programs have been established in the military services, to help Armed Forces personnel cope with this formidable social problem.

One such program is the Naval Drug Rehabilitation Center (NDRC) at NAS Jacksonville, Fla., which opened on 15 Oct 1971 as the second of two NDRCs. (The first NDRC was established at NAS Miramar, Calif., on 1 July 1971.) Its mission is: to conduct a rehabilitation program for naval personnel whose drug abuse and associated behavior patterns affect their health, welfare, and military effectiveness; to return to duty those individuals who demonstrate potential for continued military service; and to provide effective training in counseling skills, and in drug-abuse treatment.

Investigators still have not been able to completely identify and relate the many complex social, psychological, and physiological variables which interact to produce the phenomenon heralded as the "drug-abuse epidemic." Although many articles have been written on the subject of drug abuse, little reliable statistical data is available. For example, there is an incredible

dearth of information about drug abuse among military populations, particularly within specific branches of the Armed Forces. Nail, Gunderson, and Thompson,¹ and Nail and Gunderson,² have commented on the lack of available information about drug abuse among Navy and Marine Corps personnel; this void is now beginning to diminish as current reports on psychiatric populations begin to appear.

Our study provides a descriptive analysis of 426 individuals referred to NDRC Jacksonville, from March through December 1972. This report sheds further light on the scope and impact of drug abuse in the Navy and Marine Corps.

METHOD

Between March and December 1972, 426 active-duty Navy and Marine Corps personnel were referred to NDRC Jacksonville because of drug involvement. This group represents our sample population.

Demographic data were derived from the standard history questionnaires, service jackets, and individual interviews.

1. Nail RL, Gunderson EKE and Thompson FA: A preliminary study of drug abuse among psychiatric inpatients. *Milit Med* 137:119-121, 1972.

2. Nail RL and Gunderson EKE: Characteristics of hospitalized drug abuse cases in the naval service. *J Nerv Ment Dis* 155(2):91-98, 1972.

The opinions or assertions contained herein are those of the authors and are not to be construed as official, or reflecting the views of the Navy Department or the naval service at large.

RESULTS

All of the 426 cases reported in this study were male. Naval personnel accounted for 70% of the sample; the remaining 30% were Marines. This ratio of 2.4:1 (Navy:Marine) was consistent across most categories, therefore, the data presented in Tables I, II, and III are not broken down by branch of service.

Distribution by age is shown in Table I. Ages ranged from 17 to 31 years; only one man, however, was

TABLE I
DISTRIBUTION OF DRUG ABUSE BY AGE

AGE	NUMBER	PERCENT
17	16	4
18	81	19
19	114	27
20	107	25
21	67	16
22	18	4
23	10	2.3
24	5	1
25	5	1
26	2	0.5
27	--	--
28	--	--
29	--	--
30	--	--
31	1	0.2
TOTAL:	426	100

older than 26 years. Eighty-seven percent of the men were between the ages of 18 and 21 years, inclusive; 95% of the men were between 17 to 22 years. The mean age was 19.60 years, and the mode was 19 years.

Table II indicates the distribution of cases according to the length of time spent in service. Time in service ranged from two to 100 months. The mean time was 19.6 months; modal time was nine months. Sixty-one percent of the men had served less than 20 months in the military; 54% had served between six and 20 months.

A pay-grade distribution of the cases is presented in Table III. As expected, these data can be correlated with the time-in-service distribution and are heavily skewed toward the lower pay grades. The modal pay grade was E-2, with the range being from E-1 through

E-5. Eighty-eight percent of the men were E-3 in pay grade, or below. No personnel in E-6 pay grade, or above, were referred to the NDRC during this time interval.

TABLE II
DISTRIBUTION BY LENGTH OF SERVICE

MONTHS	NUMBER	PERCENT
0- 6	31	7
7-12	125	29
13-18	86	20
19-24	66	16
25-30	41	10
31-36	39	9
37-42	20	5
43-48	8	2
49-54	4	1
> 55	6	1
TOTAL:	426	100

Educational levels ranged from eight to 14 years of schooling, with a mean of 11.01 years and a mode of 12 years. Fifty-five percent (235 men) had either completed high school, or had received high-school credit through general education development (GED) tests.

TABLE III
DISTRIBUTION BY PAY GRADE

PAY GRADE	NUMBER	PERCENT
E-1	74	17
E-2	169	40
E-3	131	31
E-4	43	10
E-5	9	2
TOTAL:	426	100

General Classification test (GCT) scores were not available for all the men. For Navy personnel, 214 scores were available. The mean score was 52, which closely approximates the average score for all Navy enlisted personnel. The range was from 23 to 71. Marine scores, calculated on different scales and based

on a sample size of 46, ranged from 74 to 128; the mean score was 96. The latter score also approximates the average level for Marine Corps enlisted personnel.

The overwhelming majority of the men (85%) were single. Eleven percent were married and reported their marriages as intact. Eight men were divorced, and seven others were separated from their wives. There were no widowers.

"Broken homes" (families in which the parents are either separated or divorced, or in which one or both parents are deceased) were frequently reported. One hundred and fifty-seven men, or 37% of the sample, indicated that they had experienced such a disruption in their lives. Although the existence of a divorce or separation probably indicates some turbulence in the home, it does not logically follow that the absence of such a disruption necessarily signifies a harmonious family situation.

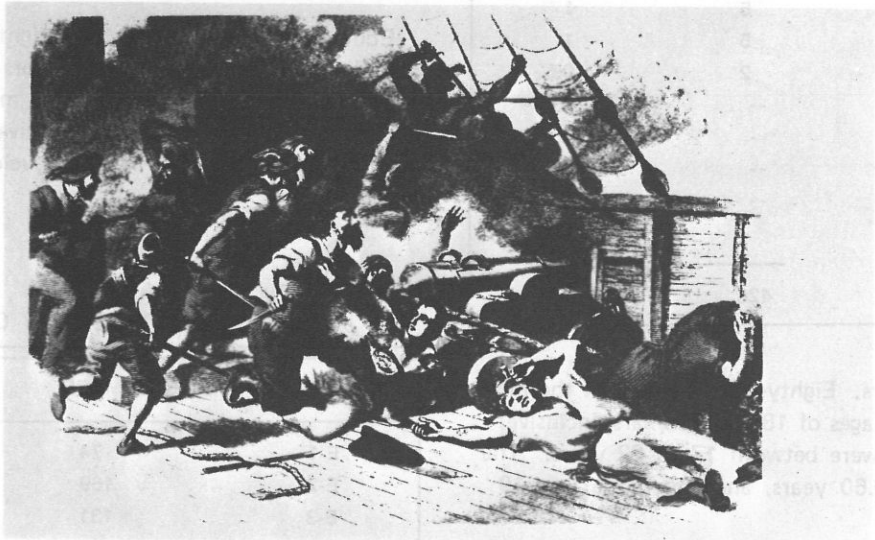
SUMMARY

A descriptive analysis of 426 Navy and Marine Corps drug-abuse cases referred to the Naval Drug Rehabilitation Center in Jacksonville, Fla., is presented. This study includes all personnel transferred to the NDRC during the period from March through December, 1972. The typical profile is that of a 19-year-old unmarried male who has been in the Navy for nine months, and has achieved the pay grade of E-2. He is of average intelligence and has completed 12 years of schooling.

Acknowledgment

The authors wish to express their appreciation to K. Mullaly and L. Rausch for assistance in compiling the data presented in this paper.

THE FOURTH OF JULY



Rapidly advancing toward the bicentennial of our independence, we celebrate the signing of our Declaration of Independence on 4 July:

"That all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness. . . ."

The years have not dimmed the ardor or the challenge of that devout hypothesis. That which our forebears struggled to establish, we strive to defend and perfect. Yet it is not by imperfection that we would be consumed, but by a total failure in perception.

May we as a Nation unite, and work and build, captivated not so much by the ignoble digressions as by the promise of what is to come, if we will but perceive it.

Radiographic Examination of the Cervical Spine in Motion

By CAPT Charles W. Ochs, MC, USN;*
CDR John S. Romine, MC, USNR;**
CDR John B. Oldershaw, MC, USN,† and;
LT David W. Cloos, MC, USNR.†

Several excellent cineroentgenographic studies by Fielding^{1,2} and Hohl³ have been produced, and demonstrate the mechanics of the cervical spine in motion. A smooth motion is characteristic of the normal cervical spine; gliding of the facet joints and adaptive changes in the intervertebral disc spaces are observed, with compression and distraction in combination with a gliding displacement of one vertebral body on another.⁴ In the abnormal cervical spine various alterations in the pattern of movement occur:

- 1) A painful intervertebral level fails to demonstrate the gliding motions of both the facet joints and the vertebral bodies, even though compression and distraction motions of the disc may be present.

- 2) Degenerative changes of the intervertebral disc usually affect all parameters of the intervertebral motion to some degree, but the limitation is often less than anticipated on inspection of the plain roentgenograms. Experience in cervical cineroentgenography has

shown that it is possible to identify the major painful level when degenerative changes are demonstrated at several levels by virtue of the fact that the major painful level presents maximum, or total loss of motion.³

METHODS

In 1970 we undertook to determine whether motion studies were practical and valuable, on a routine basis, for evaluation of painful or injured necks. Initially, standard 16-millimeter cineroentgenogram films were employed, utilizing available equipment in a cardiopulmonary laboratory. These radiographic studies were often unsatisfactory because the equipment could only be operated in the horizontal position. In addition, the mean radiation-exposure cost to the patient was 27 roentgens per minute.

Patients were then examined fluoroscopically, utilizing a specially constructed audio-video linkage. These patients could be examined in a standing position, allowing for greater comfort and mobility during the examination. The lower cervical area was better visualized and the mean radiation exposure was reduced to 2.4 roentgens per minute. The video linkage consisted of a high resolution 875-line monitor (instead of the usual 525-line monitor), coupled to a two-inch quad type video-tape recorder in a professionally operated television studio. The fluoroscopy was recorded with narration and could be replayed moments later on a television monitor in the fluoroscopic room, television

From the Clinical Investigation Center, Naval Hospital Great Lakes, Ill., the above study was supported by the Department of the Navy Clinical Investigation Control Center Work Unit No. 2-13-004.

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The opinions or assertions contained in the above paper are those of the authors and are not to be construed as official, or reflecting the views of the Navy Department or the naval service at large.

TABLE I
CERVICAL SPINE EXAMINATIONS USING CINEROENTGENOGRAPHY

<u>CASE NO., SEX, AGE</u>	<u>REASON FOR EXAMINATION</u>	<u>FINDINGS</u>	<u>CONCLUSION</u>
No. 1, M., 23	Fracture of C5 suspected on plain film.	Normal exam.	Symptomatic treatment indicated.
No. 2, M., 20	Fracture of C2 suspected; difference in opinion of radiologists.	Normal exam.	Symptomatic treatment indicated.
No. 3, M., 20	Displaced fracture of odontoid process.	Instability of the C1-2 level in extension, with an ununited os odontoideum.	Fusion of the atlas to axis indicated.
No. 4, M., 20	Patient transferred from another hospital with a diagnosis of "Cervical Fracture." No fracture noted on our plain films.	Normal exam.	Symptomatic treatment indicated.
No. 5, F., 18	Chronic painful neck following severe facial trauma in motorcycle accident.	Normal exam.	Symptomatic treatment indicated.
No. 6, F., 21	4-week history of neck pain following auto accident. Plain films showed reversal of the lordotic curve.	Normal motion at C1 through C6. Absence of gliding motion in flexion at C6-7 interspace.	Injury of C6-7 localized. Further conservative treatment recommended.
No. 7, M., 18	Injured neck by diving into swimming pool. Compression fracture of C6 without neurologic deficit.	First exam 2 weeks after injury showed mild instability at C5-6 interspace on forward flexion. Second exam under video fluoroscopy at 10 weeks postinjury showed C5-6 to be stable.	Instability at C5-6 was noted early but stability returned following conservative treatment, and full activity was resumed.
No. 8, M., 21	Fracture dislocation at C4-5, with locked facets, had been treated by open reduction and posterior fusion 12 weeks previously.	Solid fusion from C4 to C6.	Immobilization could be discontinued.

No. 9, M., 29	Fracture of Luschka's joint and facet, C6.	First exam 10 days postinjury: C5-6 joint stable in extension and to point of midflexion when quick, mild subluxation of C5 on C6 occurred. Second exam at 12 weeks post-injury; C5-6 stable in full flexion.	Neck stable until midflexion, allowing safe splinting in a soft collar, rather than rigid device.
No. 10, M., 30	Posterior ring fracture of atlas.	No instability of vertebral column, however, posterior fragment separated in full flexion.	Conservative treatment indicated.
No. 11, F., 15	Compression fracture, C5(25%), resulting from cheerleading injury.	No subluxation at C4-6.	Symptomatic treatment plus additional part-time protection indicated.
No. 12, M., 20	Undisplaced fracture, base of odontoid; appeared healed on plain films, but neck still symptomatic.	Nonunion with trace of motion detected at fracture site.	3 months' further immobilization advised. (Patient refused further follow-up)
No. 13, M., 19	Compression fracture, C5.	First exam at 2 weeks showed subluxation at C4 on C5 in early flexion. Second exam after 12 weeks showed ankylosis of C4-5 with no subluxation.	Treatment with rigid immobilization carried out until stable.
No. 14, M., 27	Fracture, odontoid process.	First exam at 10 days showed no instability, but fracture opened slightly with full flexion. Second exam at 8 weeks showed union of fracture.	Treatment with rigid immobilization carried out until stable.
No. 15, M., 19	Previous fracture of C1-2 had been treated in tong traction (age 15). Neck pain recurred recently.	Normal exam.	Symptomatic treatment indicated.

TABLE II
CERVICAL SPINE EXAMINED IN MOTION UNDER IMAGE INTENSIFIER

<u>CASE NO., SEX, AGE</u>	<u>REASON FOR EXAMINATION</u>	<u>FINDINGS</u>	<u>CONCLUSION</u>
No. 16, F., 36	Recurrent neck pain radiating to left elbow. Plain films showed congenital fusion C2-3, with degenerative disc disease C5-6.	C5-6 ankylosed.	Conservative treatment advised.
No. 17, M., 24	Neck injury without neurologic deficit. Facet fractures at C3-4 plus minimal compression fractures at C5 and C6 seen on plain films.	In flexion there was instability of C3 on C4, with 25% displacement.	Posterior fusion recommended.
No. 18, M., 31	Neck injury without neurologic deficit. Fracture of superior articular facet was seen at C6 on the left, with subluxation of C5 on C6.	First exam showed very slight instability at C5-6 with fracture contact, but mild closure of the neuroforamen in flexion. Reexam in 8 weeks showed union of fracture with no subluxation. Reexam in 12 weeks showed good range of neck motion, normal mechanics at the injured level, and restoration of the normal lordotic curve.	A cervical fracture with some instability was treated conservatively until healing was observed.
No. 19, M., 29	Back-seat passenger in auto accident who sustained fracture of both facets at C6-7; showed 3mm subluxation of C6 on C7.	Exam carried out at 10 days postfracture showed a persistent 3mm subluxation of C6 on C7, but was stable in full flexion and extension.	Conservative treatment recommended.
No. 20, M., 38	The patient had been treated for shoulder bursitis for 8 years following a neck injury. He developed pain radiating to the hand one year prior to exam. Plain X-ray films showed spurring at C6-7.	Normal joint motion was present, except at C6-7, where there was absence of normal gliding motion. C6 snapped suddenly forward on C7 when coming out of extension to neutral. There was no further motion in flexion.	Painful joint was identified. Conservative treatment continued.
No. 21, M., 34	Three-year history of a snapping neck following a rear-end automobile collision.	Normal exam.	Further studies not presently indicated.
No. 22, M., 20	Fracture of posterior ring of atlas sustained in auto accident. No neurologic deficit.	Spine was stable in motion; however, fracture of ring spread open in flexion.	Conservative treatment advised.

AUDIO-VIDEO TAPE FLUOROSCOPY

U.S. NAVAL HOSPITAL, GREAT LAKES, ILL.

Superior technical results have been obtained using a high resolution 30-35 line TV monitor coupled to a low cost audio-video tape recorder. The fluoroscope can be moved, controlled and immediately replaced from the TV studio. The study can be reviewed later by the staff on TV monitors in the TV studio conference room or the X-ray Department.

The radiographic system makes fluoroscopy a more valuable diagnostic tool in examination of nearly all patients' studies. It is valuable for teaching. Radiation exposure is considerably less than for (x-ray film) radiographic studies.

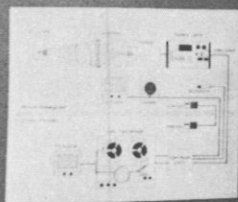


Radiologist using fluoroscopic system. Patient's mother narrates child's medical problem.



Technician in the TV studio edits audio-video tape for conference presentation.

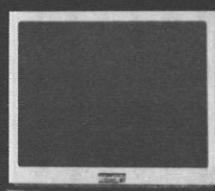
- CASE .1 FRACTURE OF C-2 ODONTOID
- CASE .2 FRACTURE OF C-5 VERTEBRAL BODY WITH SUBLUXATION
- CASE .3 CARCINOMA OF THE ESOPHAGUS



Schematic drawing of Audio-Video tape fluoroscopic system.



Television system being used as a supplementary aid at a conference.



U.S. NAVY MEDICAL PROJECT
CSC # 2-13 004
C.W. OCHS, MD.
J.B. OLDERSHAW, MD.
J.S. ROMINE, MD.
D.J. LEARY, JR., MD.
K.R. LESER, TECH.

POPULAR EXHIBIT.—The authors presented an attractive exhibit of their implemented method in audio-video tape fluoroscopy at meetings of the American Medical Association and the Radiological Society of North America, in 1973.

studio, or conference room. A replay of his examination was often shown to the patient, improving clinical cooperation and understanding of his medical management.

CLINICAL RESULTS

The first study group consisted of 15 patients with suspected fractures of the cervical spine, and a total of 19 examinations using cinerentgenography (See Table I).

Seven additional studies were performed, but these are not included in the series because the films were technically poor and could not be interpreted satisfactorily.

The second study group (See Table II), using fluoroscopy without video tape, included two patients with

degenerative joint disease and radicular symptoms. The painful level was easily localized in both cases. Should future surgical treatment become necessary in either case, it is doubtful that myelography would contribute any further information. Four patients with cervical-spine fractures presented varying degrees of instability. One of these patients (Case No. 17) presented subluxation in extension and neutral positions of the neck; the need for surgical stabilization was immediately apparent. Cases No. 19 and No. 22 received early examination following fracture; in both cases motion was minimal at the fracture site, even in full flexion, supporting a conservative approach to treatment. Another patient (Case No. 18) demonstrated slight instability with motion at the fracture site in flexion; however, there was a generous arc of neck motion about the neutral position, during which no fracture-site

TABLE III
CERVICAL SPINES EXAMINED FLUOROSCOPICALLY, RECORDED ON VIDEO TAPE

<u>CASE NO., SEX, AGE</u>	<u>REASON FOR EXAMINATION</u>	<u>FINDINGS</u>	<u>CONCLUSION</u>
No 23, M., 34	Unstable fracture dislocation at C6-7, incurred in parachute injury. Dislocation reduced in tong traction, but loss of position occurred in Minerva plaster. Exam after 3 months' immobilization.	Displacement of C6 on C7 was present, but solidly healed.	Immobilization could be discontinued.
No. 24, M., 33	Left lateral bending injury of neck occurred in auto accident. Plain films were normal, but patient had chronic pain.	Normal joint motion.	Symptomatic treatment indicated.
No. 3, M., 20	Painful neck following auto accident. Plain films revealed displaced fracture, os odontoidum. Patient underwent posterior fusion C1-2 after cineroentgen examination. (See Table I).	First exam (See Table I) revealed unstable odontoid process with complete displacement in extension. Second study 12 weeks after surgery revealed solid fusion at C1-2.	No further treatment required.
No. 25, F., 18	Patient dove into shallow water striking head, with resulting pain between scapulae. Plain films revealed compression fracture of C7. Motion study carried out after 12 weeks in poster brace.	No abnormal motion seen, with ankylosis at C6-7.	No further treatment required.
No. 26, M., 18	Fracture-dislocation at C6-7, resulting quadriplegia, occurred in auto accident. Exam conducted after 12 weeks of tong traction.	No motion at fracture site.	Fusion not required.
No. 27, M., 25	Fracture-dislocation of C6-7 without neurologic deficit, result of auto accident. Motion study conducted 6 months after anterior cervical fusion.	Solid fusion.	No further treatment indicated.

No. 28, M., 19	Neck pain and spasms following auto accident. Three weeks following injury plain X-rays revealed anterior displacement of C5 on C6. The patient was treated for 3 months in a Minerva jacket.	First exam after 12 weeks immobilization showed increased motion at C5-6 with abnormal widening between spinous processes. Similar findings were noted on second examination after 6 weeks further bracing.	Surgical stabilization advised.
No. 29, M., 22	Trauma to vertex of head sustained in auto accident. Plain X-rays revealed fracture through lamina of C2 with 9mm anterior displacement of C2 on C3, and a posterior ring fracture of the atlas. The patient was treated in Minerva jacket for 12 weeks.	All levels were solidly healed and stable in full flexion and extension.	Immobilization could be discontinued.
No. 30, M., 18	Patient transferred from another hospital with a diagnosis of cervical fracture following an auto accident.	Normal exam.	No further treatment required.
No. 31, M., 19	Odontoid fracture sustained in auto accident. The patient was treated with posterior fusion of C1-2, followed by 12 weeks' immobilization.	Solid fusion.	No further treatment required.
No. 32, M., 19	A heroin addict who developed spinal abscess and quadriplegia, had undergone extensive cervical and thoracic laminectomy for decompression. Facet joints had been removed from C4 to T2.	Exam carried out with the patient lying on his side, showed no vertebral instability in full neck flexion and extension.	Fusion not required.
No. 33, M., 51	10-year history of neck pain, recent pain radiation to right arm. Plain X-rays showed cervical spondylosis involving C4 to C7.	Upper cervical segments moved normally. There was mild limitation of gliding motion at C4-5 and C6-7, and marked limitation at C5-6.	Surgical treatment, if offered, would be limited to C5-6.
No. 34, F., 28	3-month history of stiff neck with pain radiating to right shoulder. Plain X-rays were normal.	All motion was normal, except C6-7 where there was mild limitation of vertebral gliding.	Diagnosis of disc lesion at C6-7 was established.

motion was observed. It was elected to treat the patient in a soft cervical collar, preventing flexion but allowing some rotation and extension motion. The patient was very cooperative, and was allowed to remove the collar daily to shave and shower. The neck was reexamined twice; solid union of the fracture was present in eight weeks, with completely normal vertebral motion in 12 weeks.

Another group of patients presenting painful neck was examined using the audio-video fluoroscopy system (See Table III).

In our series, combining the first and third groups of patients, tape or film records were obtained in 16 cases of proven cervical-spine fractures. Six patients were examined twice, before and after treatment. One patient (Case No. 3) with motion of an ununited odontoid process demonstrated preoperatively by cineroentgenography, was shown by videofluoroscopy to have no abnormal motion 12 weeks following a posterior C1-C2 fusion.

Another patient (Case No. 28) presented persistent fracture-site instability following an adequate period of immobilization, and surgical treatment was accordingly recommended. The remaining four patients (Cases No. 7, 9, 13, and 14), with initial instability, were followed to solid healing with conservative treatment. The latter four cases proved that selected patients with unstable cervical-spine fractures can be treated conservatively for a minimal period of time, following which solid healing can be established and the patient returned to full activity.

Survey of the entire study revealed considerable data of clinical importance:

- 1) Examination of eight injured necks failed to disclose significant positive findings.
- 2) In three injured necks without fracture, visualization of the cervical spine in motion served to pinpoint the specific level of injury.
- 3) In two patients with multiple levels of degenerative joint disease, motion study made it possible to localize the primarily affected level of cervical spine involvement.
- 4) An examination performed after wide laminectomy indicated adequate stability of the cervical spine without fusion.
- 5) Twelve examinations were carried out within a 14-day period following fracture of the cervical spine. Initial treatment guidelines were established on the basis of the clinical findings with no aggravation of symptoms, and no neurologic irritation.
- 6) Three postoperative examinations established that fusion was solid, and that rapid mobilization of the neck could be permitted.

7) Eleven examinations were performed to establish the presence of fracture healing after immobilization. Adequate healing was demonstrated in nine cases, indicating that further continuous immobilization was no longer necessary. Continued instability after two periods of immobilization was demonstrated in another case, for which surgery was advised.

DISCUSSION

Following injury or laminectomy, a determination of the extent of stability of the cervical spine is often of vital importance. Gross instability is frequently obvious on plain roentgenograms. In evaluating cases of extension injury with ligamentous instability anteriorly and posterior-element fracture, admittedly, motion studies might place the cord in jeopardy. There remains a large number of fractures, however, where examination of the neck in motion is safe and where the information obtained contributes materially to the clinical management. The judicious use of cervical-motion studies should be considered in the following clinical situations.

1) Flexion injuries *without neurologic deficit*, including:

- a. compression fractures
- b. facet fractures
- c. avulsion fractures of spinous processes
- d. unstable os odontoideum
- e. odontoid fractures
- f. fractures of the ring of the atlas
- g. undisplaced pedicle fractures
- h. mild subluxations without visible fracture

2) Unstable fractures *with or without neurologic deficit*, following treatment and prior to removal of protective immobilization.

Our management of cervical fractures has become much more individualized since we began using motion studies. Patients with compression fractures or facet fractures without neurologic deficit may not require application of a Minerva jacket. If the patient is intelligent and cooperative, and if the motion study shows stability through most of the arc of spinal flexion, immobilization in a soft cervical collar may prove adequate.

Patients transferred to our care after evaluation or treatment elsewhere, have frequently expressed their confusion as a result of prior disagreements about the diagnosis of cervical injuries. When tapes or films were reviewed and individual clinical management discussed, the patient's confidence was usually restored immediately. In those cases where suspicions of fracture or ligamentous instability were ruled out, active neck

motion was begun in spite of residual pain. Had these patients harbored a suspicion of diagnostic error, rehabilitation would have been more difficult.

Sophisticated medical practice is putting increasing emphasis on technology to assist in the determination of proper indications for surgery or termination of treatment. We feel that the time for termination of treatment (i.e., fracture stability) can be more accurately identified by examination of the cervical spine in motion than by stress-film studies. Indications for surgery must remain within the purview of the individual surgeon's judgment, however, the surgeon can more readily and positively initiate a conservative approach to cervical-fracture treatment when periodic motion studies are available.

SUMMARY

Thirty-four patients with painful or injured necks underwent radiologic examination of the neck in motion. Seven patients were examined fluoroscopically, without documentation by permanent records. The remaining 27 patients underwent studies recorded on cineroentgenographic film or video tape. Twenty

patients with cervical-spine fractures were examined, and findings were recorded in 16 cases.

These studies proved valuable in fracture management, diagnosis of instability, and demonstration of solid healing.

A video tape system featuring instant replay, clear image, and low radiation exposure was found to be ideal for routine use. The patient can view an instant replay of his examination, thereby improving cooperation and understanding of his clinical management.

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CHAMPUS — THE BASIC PRINCIPLE

CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) is a broad-ranging program of civilian health care for certain categories of military-related personnel.

It is available to dependents of an active-duty serviceman when military facilities cannot provide treatment, but it is not available to the serviceman himself. It covers retirees and dependents.

The basic principle of CHAMPUS is that the government pays the major portion of both inpatient and outpatient care while the user pays a minimal share. The major guidelines are these:

- CHAMPUS users are liable for the first \$25 of a hospital charge, or \$3.50 per day, whichever is greater.
- Costs for outpatient care are handled on a yearly deductible basis. The user is liable for only a \$50 deductible charge for one dependent, or \$100 for two or more dependents. CHAMPUS covers the remainder.
- CHAMPUS pays 75% of the reasonable charges of hospital and professional personnel. The user is liable for the other 25%.

For a better understanding of how CHAMPUS works,

see your local CHAMPUS advisor. — AFPS No. 1658, 2 Jun 1974.

NAVY HEALTH AND SAFETY WORKSHOP

The Navy Industrial Environmental Health Center will sponsor a health and safety workshop, from 30 Sep to 4 Oct 1974, at the Braniff Place Hotel, New Orleans, La.

The program should be of value to physicians, nurses, safety officers, industrial hygienists, engineers, and program managers who are interested in federal occupational health and safety, and environmental quality.

Attendance is open to all. There is no fee. Naval Reserve and American Academy of Family Practice credit have been requested.

For further information, contact:

W.A. Redman, Jr., M.D.

Navy Environmental Health Center

3333 Vine Street

Cincinnati, Ohio 45220

Telephone: (Area code 513) 684-3951.

SCHOLARS' SCUTTLEBUTT



Members of the Training Branch of the Bureau of Medicine and Surgery have received many inquiries from students as to how they can better assure themselves of selection for the first-year Graduate Medical Education position for which they may be applying. In this issue of the *Scholars' Scuttlebutt* we will try to offer some helpful suggestions which will increase a Navy scholar's chance of success.

First, it is important to read carefully the information and application blanks which have been sent to you. At first glance they might seem very confusing; but remember that they were carefully thought out and constructed to furnish you as much information as possible in a concise form. Remember that the Navy is dealing with over two hundred first-year positions in sixty-two different programs. As we have presented it, the program arrangement is designed to conform with the policy of the Council on Medical Education of the American Medical Association regarding designations for the first year of Graduate Medical Education.

Secondly, as you approach the application process, reassess your attitude. You should really want to train in the Navy and be a Navy physician. We feel sure that the composite training programs which we are offering are as good, if not better, than any which can be obtained anywhere. If they were not, the Navy would not offer them. Approach the application process with the idea that we are honestly trying to

get for you the best training available. Not only is it to your advantage, but to our's. You are the physicians on whom we will be depending in the future. We want you to be well trained. The Navy is not asking you to take something second-rate.

Thirdly, remember that in applying for a position in Navy Graduate Medical Education, once again, you must sell yourself. The key to salesmanship is advertising. Make yourself known. Try to visit at least one, if not two program directors in the specialties in which you are interested. Plan on visiting the naval hospital in which you would like to do your training. If possible, try to do a clerkship or observership on a service of your choice. In brief, let us know who you are. As you know, the Specialty Directors will meet in Washington, D.C., in September, to recommend the candidates whom they desire for their programs. If they have had a chance to observe you and evaluate you as a candidate, your chance of selection will be enhanced. In the same vein, try to obtain several meaningful letters of recommendation. A thoughtful evaluation by a professor or experienced clinician will be of great value.

Finally, but not least in importance, let us help you. We know that you will have questions and areas of concern regarding this important step in your professional career.

Again for your convenience we are listing the names and telephone numbers of the directors of Medical Education at the naval hospitals.

LOCATION	TELEPHONE	DIRECTORS/ASSISTANT DIRECTORS
NRMC [†] Portsmouth, Va.	(804) 397-6541	CAPT N.G. Lewis, MC, USN CAPT J.C.P. Collier, MC, USN
NRMC San Diego, Calif.	(714) 233-2022	CAPT R.F. Milnes, MC, USN CAPT C.R. Sargent, MC, USN
NRMC Oakland, Calif.	(415) 639-0111	RADM R.L. Baker, MC, USN CDR V.L. Goller, MC, USN
NNMC ^{††} Bethesda, Md.	(202) 295-0274	RADM W.J. Jacoby, MC, USN CAPT R.J. Van Houten, MC, USN
NRMC Philadelphia, Pa.	(215) 755-8232	CAPT R.L. Mullin, MC, USN CDR J.F. McGrail, MC, USN
*NRMC Charleston, S.C.	(803) 743-5670	CDR R. Higgins, MC, USN
*NRMC Camp Pendleton, Calif.	(714) 725-3310	CDR J.W. Norton, MC, USN
*NRMC Jacksonville, Fla.	(904) 772-2201	LCDR J.C. Baggett, Jr., MC, USNR
*NH Pensacola, Fla.	(904) 452-4411	Director of Medical Education

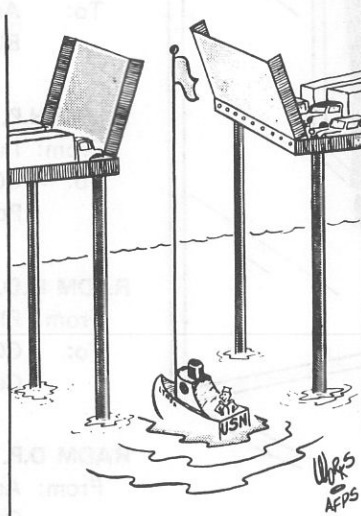
[†] Naval Regional Medical Center

^{††} National Naval Medical Center

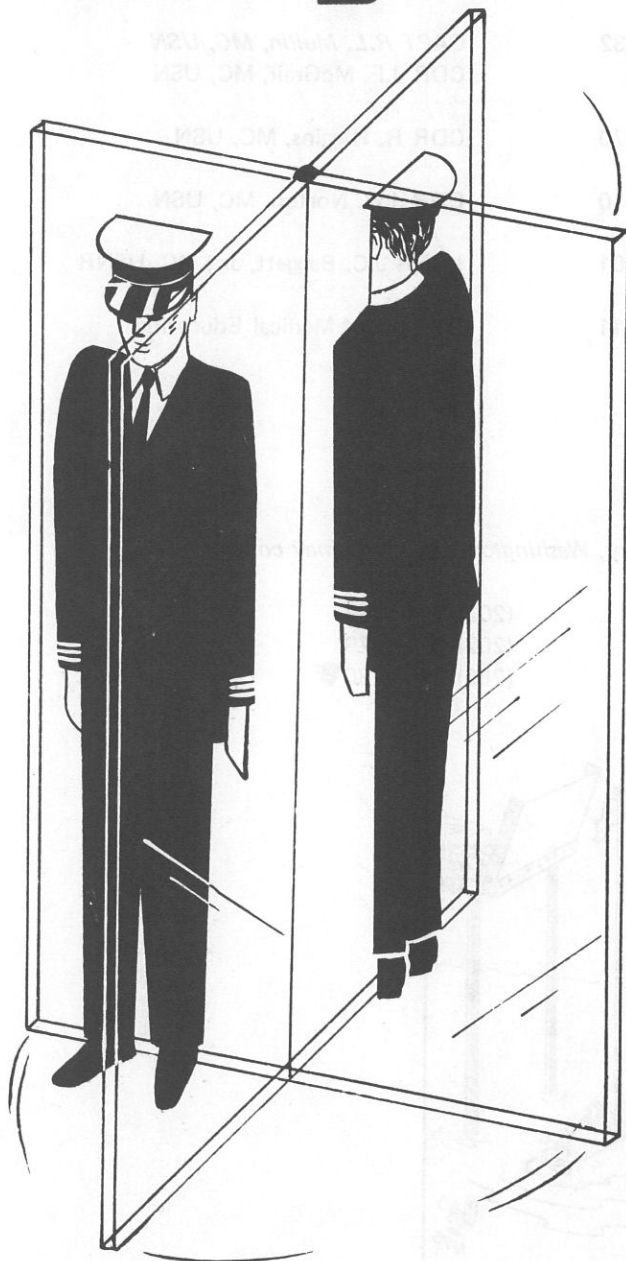
* Family Practice programs only.

At the Bureau of Medicine and Surgery, Washington, D.C., you may contact:

Mr. C.B. Mohler	(202) 254-4339
CAPT S. Barchet, MC, USN	(202) 254-4279
CAPT W.M. McDermott, Jr., MC, USN	(202) 254-4280



Coming and Going



RADM W.P. ARENTZEN, MC, USN

From: CO, Nav Hosp Portsmouth, Va.

To: CO, Naval Regional Medical Center, San Diego, Calif. (Jun)

RADM F.P. BALLENGER, MC, USN

From: Chairman, Naval Physical Disability Review Board

To: Retirement (Jun)

RADM H.S. ETTER, MC, USN

From: Deputy Chief, Bureau of Medicine and Surgery and Assistant Chief for Headquarters Operations, BUMED 2

To: Retirement (Jul)

RADM R.E. FAUCETT, MC, USN

From: CO, Naval Regional Medical Center, Oakland, Calif.

To: Retirement (Jul)

RADM P.O. GEIB, MC, USN

From: Assistant Chief for Research and Military Medical Specialties, BUMED 7

To: Fleet Surgeon, CINCLANTFLT (Jul)

RADM O. GRAY, JR., MC, USN

From: CO, Naval Aerospace Regional Medical Center, Pensacola, Fla.

To: Retirement (Aug)

RADM P. KAUFMAN, MC, USN

From: CO, Naval Regional Medical Center, Jacksonville, Fla.

To: Assistant Chief for Planning and Logistics, BUMED 4 (Jun)

RADM H.P. MAHIN, MC, USN

From: Inspector General, Medical, BUMED 12

To: CO, Naval Regional Medical Center, Portsmouth, Va. (May)

RADM R.D. NAUMAN, MC, USN

From: Fleet Surgeon, CINCLANTFLT

To: CO, Naval Aerospace Regional Medical Center, Pensacola, Fla. (Jul)

RADM D.P. OSBORNE, MC, USN

From: Assistant Chief for Personnel and Professional Operations, BUMED 3

To: Deputy Chief, Bureau of Medicine and Surgery and Assistant Chief for Headquarters Operations, BUMED 2 (Jun)

RADM E.J. RUPNIK, MC, USN

From: Assistant Chief for Planning and Logistics, BUMED 4
To: Assistant Chief for Personnel and Professional Operations, BUMED 3 (Jun)

RADM H.A. SPARKS, MC, USN

From: CO, Naval Medical Research Unit-3, Cairo, Egypt
To: CO, Naval Regional Medical Center, Oakland, Calif. (May)

RADM H.G. STOECKLEIN, MC, USN

From: CO, Naval Regional Medical Center, San Diego, Calif.
To: Retirement (Jul)

RADM W.C. TURVILLE, MC, USN

From: CO, Naval Regional Medical Center, Great Lakes, Ill.
To: Retirement (Jun)

LCDR M.L. COOPER, MSC, USN

From: Administrative Officer, Nav Hosp Portsmouth, N.H.
To: CO, Nav Hosp Portsmouth, N.H. (Jul)

CHECKS REQUIRE PATRON SSN

The Army and Air Force Exchange Service has announced that patrons who wish to cash a check at an exchange must now have positive proof of social security number if it is not shown on the ID card.

The new requirement has been brought about to conform to a recent switch of military records to a total social security number system. It applies to military personnel, both active and retired, and to authorized civilians and dependents.

Because identification cards issued before mid-1967 do not show a social security number, patrons who hold cards issued before that time should request new ones through appropriate military channels.

If a dependent does not have his or her sponsor's social security number on the ID card, AAFES will accept the dependent's social security number provided it is shown on the ID card or on another document, such as a social security card, medical card or driver's license. — AFPS, No. 1651, 14 Apr 1974, Washington, D.C.

RELEASE NEEDED FOR SELLING GI LOAN HOME

The Veterans Administration warns veterans and servicemen who sell homes purchased with GI loans to make certain they obtain a "release from liability" if the purchaser assumes their loans. Otherwise, VA officials explain, the seller (the veteran) could be held financially liable should the purchaser default on mortgage payments.

VA will grant a "release" provided the veteran's loan is current, the purchaser agrees to assume the veteran's liabilities, and the prospective purchaser is a good credit risk with sufficient income to meet GI loan mortgage payments.

Officials made clear, however, that a "release from liability" does not automatically restore GI loan entitlement which the veteran utilized to purchase the home sold. Restoration can be made, it was stressed, only for what the agency describes as "compelling reasons" for disposing of the property, provided the GI loan has been paid in full.

Where purchasers agree to assume loans, officials urge veterans to apply promptly for a "release" from VA offices which guaranteed their loans. — AFPS, No. 1651, 14 Apr 1974, Washington, D.C.

Diagnosis and Treatment of Calcaneal Stress Fractures at MCRD, Parris Island, S. C.

By LT Clark N. Hopson, MC, USNR*

and

LTJG Dennis R. Perry, MSC, USNR**

Naval Hospital Beaufort, South Carolina.

PRESENTATION

A total of 2,360 Marine Corps recruits were admitted to the Medical Rehabilitation Platoon (an ambulatory, medical-holding section), at the Marine Corps Recruiting Depot (MCRD), Parris Island, South Carolina, in the year of 1973. Of this group, 280 men were admitted because of calcaneal stress fractures.

Signs and symptoms of calcaneal stress fracture appear usually between the first and fourth training weeks. The recruit generally presents with a chief complaint of "ankle pain." He usually points to the insertion of the Achilles tendon and the surrounding calcaneal area, both medially and laterally. Running and prolonged standing produce the most discomfort. Momentary relief is achieved by shifting his body weight to the fore-foot area. The pain is usually described as aching in nature. Symptoms are reduced after a night's bed rest,

but rapidly reappear when pedal activity is resumed.

Physical examination reveals an erythematous and edematous posterior medial and lateral calcaneal area. The edema extends superiorly to include a triangular area (bounded at its base by the superior aspect of the calcaneal body, by the distal tibia anteriorly, and by the triceps surae muscle posteriorly). Petechiae may be present. Obliteration of the normal indentation between the Achilles tendon and posterior aspects of the tibial and fibular malleoli is usually observed (See Figure 1). Palpation of the medial and lateral



Figure 1.—A clinical view of calcaneal stress fracture.

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The opinions and assertions expressed herein are those of the authors, and are not to be construed as necessarily reflecting the views of the Navy Department, or the naval service at large.

aspects of the calcaneus produces moderate to severe pain, and an appropriate withdrawal reaction. It has been our experience that X-ray studies at this time will appear normal. A period of approximately ten days is required before significant positive findings are demonstrated on roentgenograms, which reveal a sclerotic line, or a sclerotic mottled area at the superior aspect of the calcaneus (See Figure 2).



Figure 2.—A radiographic view of calcaneal stress fracture.

DIFFERENTIAL DIAGNOSIS

1. Stress edema (lymphatic and/or venous).
2. Cellulitis of the calcaneal region.
3. Retrocalcaneal bursitis.
4. Contusion.
5. Achilles tendinitis.
6. Neoplasm of the calcaneus.
7. Infectious process of the calcaneus.

TREATMENT

At the first visit, light duty is prescribed for a period of three days. This order serves to preclude running,

marching, prolonged standing or physical training.

If the recruit should subsequently return with persistent symptoms, the following regimen is implemented:

1. The recruit is admitted to Medical Rehabilitation Platoon.
2. Depending upon the severity of the symptoms, bed rest for three days with elevation of the extremities to an angle of thirty-five degrees may be required.
3. Appropriate analgesic medication.
4. Limited duty is ordered, to spare the lower extremities until the patient is able to tolerate light activity with reasonable comfort. Activities are subsequently increased according to tolerance. (Boots are generally more comfortable during this period because reduced pull of the triceps surae results from the heel height of the boot.)
5. X-ray studies include lateral and axial views of the calcaneus. These films are obtained at least ten days following the initial visit.
6. Weekly follow-up visits for podiatric examination are required until release to full duty is executed.

PROGNOSIS

Recovery generally takes four to six weeks. Recruits have been released as early as one week following the time of admission, however. The decision to discharge the patient from care is based upon the patient's ability to perform full activity with only minimal discomfort. It is not uncommon for the recruit to return shortly after he has been discharged to full duty, with the complaint that his heel has again become tender. Examination reveals only minimal signs. It should be explained to the recruit that this degree of difficulty is to be expected, and it will not interfere with normal training. Only a small percentage of these cases are ever readmitted to the Medical Rehabilitation Platoon. ☞

ERRATUM

In the May 1974 issue of *U.S. Navy Medicine*, on page 57, the caption below a picture of VADM Joel T. Boone, MC, USN (Ret., now deceased) incorrectly identified Dr. Boone as the first military medical officer to achieve three-star rank. Although Dr. Boone was certainly among the first military physicians to wear three stars, he was preceded to this rank by VADM Middleton Stuart Elliott, MC, USN and VADM Ross T. McIntire, MC, USN. Our thanks to RADM A.W. Chandler, DC, USN (Ret.) for bringing this error to our attention. ☞

Cephalograms in Localizing Foreign Bodies

By CAPT Elgene G. Mainous, DC, USN,* and
LCDR Van D. Henson, DC, USN,**
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Few articles have appeared in the dental literature which suggest leaving foreign metal fragments in situ. In most cases, it is unnecessary to extract a foreign body that is located in an inaccessible region. Any surgical treatment under consideration must be weighed carefully, balancing the hazard of the surgical procedure against the probable natural outcome of the injury if nature is permitted to wall off the foreign body in scar tissue.

If surgical removal is favored, localization of the foreign body often presents a difficult problem. When direct visualization or palpation of the object is not possible, radiographic localization represents an essential and singular means of presurgical localization.

CLINICAL SIGNIFICANCE

It is common knowledge that many roentgenographic views of the head and neck often distract and magnify foreign bodies. As a part of the missile trajectory, tissue edema and/or emphysema may complicate the localization of a foreign body by decreasing palpability of the object, and by increasing the distance between the object itself and the normal anatomic bony landmarks used to establish radiographic relationships.

Techniques of radiographic localization of foreign bodies which are often mentioned in the literature

include: triangulation, using metallic markers of known position;¹ fluoroscopic examination in two positions, using marking devices;² and stereoscopic films.³ Often these methods are simply not available, or are not feasible.

The oral surgeon with cephalometric capabilities is often in the best position to help in an effort to locate foreign bodies of the head and neck. Cephalograms provide accurate dimensional measurement of the head, anteriorly-posteriorly and vertically. Localization of foreign objects in relation to precise bony anatomic structures is facilitated.

CEPHALOGRAMS

Cephalometric roentgenography is most frequently used in orthodontics for studying craniofacial growth. The cephalometer is a device which holds the patient's head, the X-ray film, and the central ray of the X-ray machine in a proper relationship to one another. By the use of an orbital pointer and ear-rod extensions, the head can be adjusted in such a way that the profile is centered regardless of the size or shape of the head; the head is adjusted along the horizontal plane. A cephalogram is then made with the central X-ray directed through the ear rods, and perpendicular to the surface of the film. The more accurate the direction of the central ray perpendicular to the surface of the film, the less distortion and magnification is produced, and the easier it is to locate foreign bodies in relation to normal anatomical structures.⁴

In the case report that follows herein, a cephalogram was used to localize a 0.32-caliber bullet in a gunshot wound of the left mandible.

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**First Year Oral Surgery Resident.

The opinions or assertions contained herein are those of the authors and are not to be construed as official, or reflecting the views of the Navy Department or the naval service at large.

REPORT OF CASE

A 21-year-old male PFC/USA was referred to Long Beach Naval Hospital from a civilian institution, for the treatment of a gunshot wound of the left lower face.

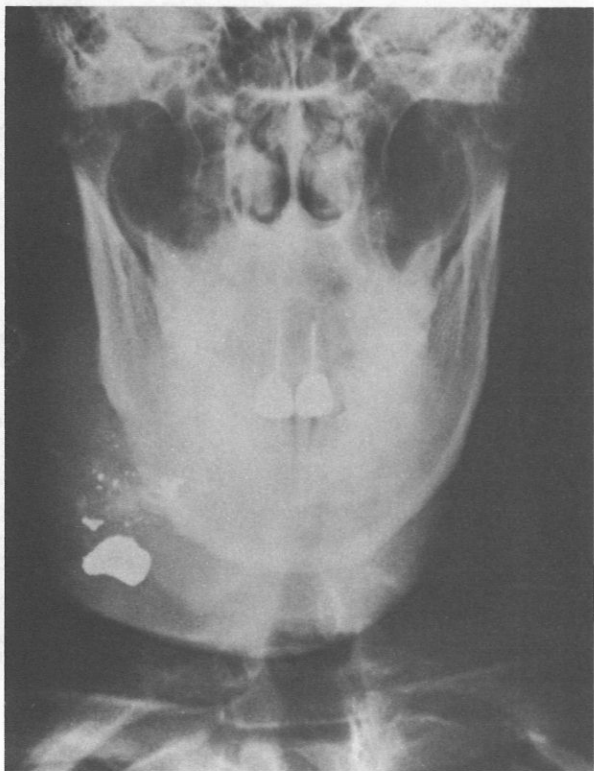


Figure 1.—Anterior-posterior radiograph of skull.

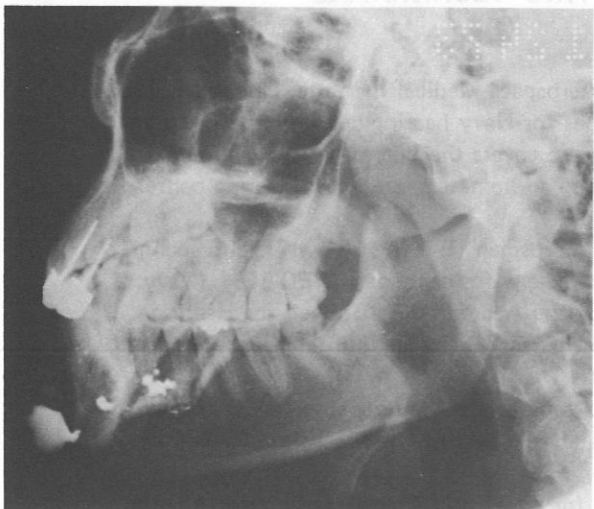


Figure 2.—Right lateral oblique radiograph of mandible.

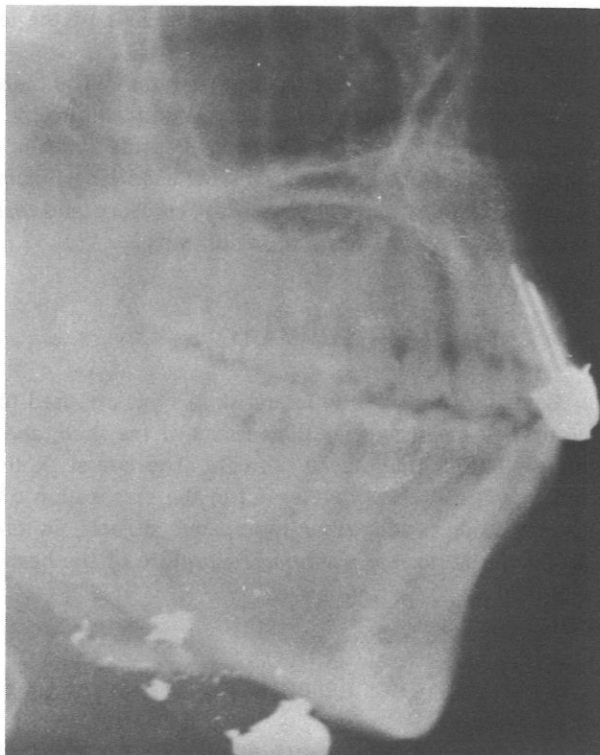


Figure 3.—Cephalogram of skull (preoperative).

Examination of the patient revealed massive soft-tissue swelling over the left mandible, and the left sub-mandibular and submental spaces. A 2 x 1.2 cm. stellate wound was presented, approximately 2cm below the left angle of the mandible. Intra-oral examination revealed ecchymotic swelling of the left buccal sulcus, elevation of the tongue and ecchymotic swelling of the left floor of the mouth. Examination of the oropharynx revealed an adequate airway. Palpation of the left face, buccal sulcus, floor of the mouth, and submandibular area failed to reveal the presence of a foreign body.

Roentgenographic examination was as follows: A posterior-anterior radiograph of the skull revealed a 1.5 x 1 cm. foreign body, lateral to the left mandibular body. There was comminution of the left inferior border of the mandible, with smaller fragmented foreign bodies situated in the adjacent area. Soft-tissue swelling could be visualized over the left mandibular body at the inferior border (See Figure 1). A right lateral oblique film (See Figure 2) showed the foreign body to lie anterior to the mandible, at a level just above the inferior border. However, a true lateral skull radiograph utilizing the cephalometer (See Figure 3) revealed the foreign body to lie at the inferior border

of the mandible, in line with the long axis of the left second bicuspid tooth.

Surgical exploration verified the location. The bullet was then removed, the entrance wound elliptically excised and closed with a 1/4-inch Penrose drain in place, and the fractured mandible reduced (See Figure 4). The patient had an uneventful recovery and was discharged from the hospital to full duty.

SUMMARY

Cephalograms, or true lateral skull films are used for accurately measuring the dimensions of the skull, and for evaluating craniofacial growth. The lateral skull radiograph can also prove useful in the localization of foreign bodies, and other radiopaque objects, in relation to the normal anatomical structure of the head and neck.

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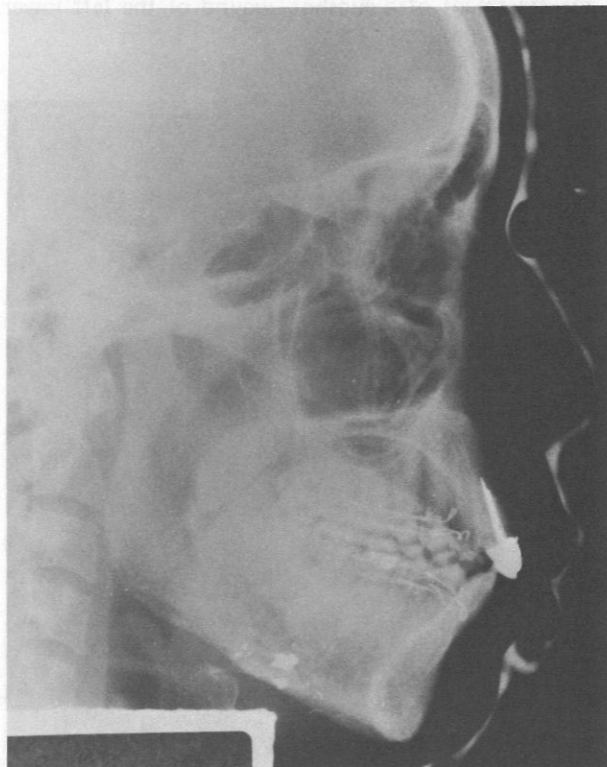


Figure 4.—Cephalogram of skull (postoperative). ㉔

COURSE FOR AUDIOMETRIC TECHNICIANS

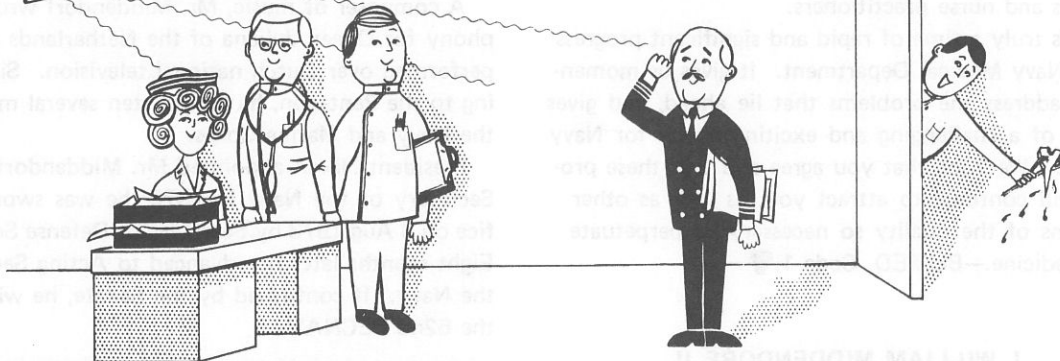
The Hearing Conservation Division, Naval Aerospace Medical Institute, Pensacola, Fla., will conduct a course in audiometric techniques for Navy hearing conservation programs during the week of 12-16 Aug 1974. The course covers the operation and maintenance of manual audiometers, self-recording and group audiometers, and Navy hearing conservation program procedures.

The course is designed for selected hospital corpsmen (E-6 and below), health technicians, and nurses. The training qualifies technicians for secondary NEC-8591 (Navy Enlisted Classification) and for certification by the Accreditation Council for Hearing Conservation Technicians. The training also helps activities meet current Occupational Safety and Health Administration requirements.

The Naval Aerospace Medical Institute has sent a letter announcing the course and containing administrative details to all naval activities east of the Mississippi River that have audiometric equipment.

The next Audiometric Technician's Course for western U.S. and Pacific area activities will be held at NAS North Island, San Diego, Calif., in Nov 1974. ㉔

Notes and Announcements



VIP FOR MOs

On 6 May 1974 the President signed into law the long-awaited Variable Incentive Pay (VIP) Act, which provides a bonus of up to \$13,500 per year for a signed agreement by physicians, to remain on active duty for an additional one to four years. Further, the bill provides an increase of \$350 a month in Medical-Special Pay, after two years of service as a medical officer. The law is effective on 1 June, and the Medical-Special Pay will be computed from that date; but it is likely that the bonus itself will not be available for at least a month, pending administrative requirements in setting it up and the availability of the necessary funds.

The legislation only sets the broad outlines of the bonus. The actual details of implementation and eligibility are still being worked out in negotiations between the military medical departments, the Department of Defense (DOD), and the Office of Management and Budget (OMB — the financial watchdog for the Executive Branch of the government).

In the meantime the Navy Medical Department is rapidly moving ahead where it can, and has convened a special board to consider the eligibility of every physician on active duty. The final implementation directive must be approved by the service Secretaries, the Secretary of Defense, and the President. Once the approved implementation order has been released, it will be promulgated immediately.

This brings up a very important point. Just as the implementation process is not the product of the military medical departments alone, the legislation represents a blend of the interests, points of view, and objectives of the service medical departments, the services themselves, DOD, OMB, Congress, and the President. While the bill is not all that we would have wished, it

is a great deal more than we expected to get at one point, and we will continue to try to change those areas which fall short of our needs. In the main we consider the law to be fair, and a valuable tool in our drive to achieve an all volunteer medical officer force.

A special word is in order regarding the status of those in training programs under the provisions of this law. This has been a hotly contested point; but the result is clearly stated in the law and provides that residents (in primary residencies) and interns are not eligible for VIP (some now receive Continuation Pay [COPAY] and as a result will lose it), and that time in internships and residencies does not serve to repay initial service obligation. We consider it a major victory that we were able to exclude secondary residencies from this restriction and that the maximum disqualifying time was set by Congress at four years, as it originally had no limit. This restriction underlines Congressional perception of the value of service residency and internship training, plus the fact that most of our residents, with the provisions of the change in the Medical-Special Pay which applies to all medical officers, will be earning substantially more annually than their civilian resident counterparts. A major effort was made to spare those residents currently receiving COPAY; but the very specific wording of the law left no hope in this regard. We sincerely regret this turn of events, but have been powerless to avert it.

The enactment of this pay legislation is the most recent of several major events in which this Bureau has participated during the last two years, to strengthen the Navy Medical Department and enhance the attractiveness of a Navy medical career. We have seen the beginning of a \$750 million medical-construction

program, the enactment of a major and highly successful medical-scholarship program, the inception of a federal medical school, and soon the use of physician's assistants and nurse practitioners.

This is truly a time of rapid and significant progress for the Navy Medical Department. It gives us momentum to address the problems that lie ahead, and gives promise of a challenging and exciting epoch for Navy medicine. We hope that you agree and that these programs will continue to attract you, as well as other physicians of the quality so necessary to perpetuate Navy medicine.—BUMED, Code 1. 🍀

J. WILLIAM MIDDENDORF II NOMINATED AS SECRETARY OF NAVY

J. William Middendorf II, a former U.S. ambassador and a direct descendant of one of America's first naval officers, has been nominated as the next Secretary of the Navy. He has been serving as Acting Secretary of the Navy since 8 Apr 1974, when former Secretary of the Navy John W. Warner left office to head the American Revolution Bicentennial Administration.

Mr. Middendorf was born in Baltimore, Md., on 22 Sep 1924. He is a descendant of CAPT William Stone, one of the country's first naval officers and commander of the original *Hornet*, believed to be the first new Continental Navy ship put to sea in Feb 1776.

Mr. Middendorf received a bachelor of naval science degree from Holy Cross College, Worcester, Mass., in 1945. He will be the first Secretary of the Navy to hold this degree. He also received a bachelor of arts degree at Harvard University in 1947, and a master of business administration degree at New York University Graduate School of Business Administration in 1954.

His college education was interrupted in 1943 by his enlistment in the U.S. Navy V-12 Program at Harvard. In 1944 he transferred to the NROTC program at Holy Cross College, receiving his commission as an ensign in 1945. From 1945 to 1946, he served as an engineering and communications officer in the Pacific, in a landing craft (LCS-53).

Mr. Middendorf's professional background is varied, and his personal interests broad. A successful investment banker in New York for many years, he also served as treasurer of the Republican National Committee between 1964 and 1969. In 1969 he was appointed U.S. Ambassador to the Netherlands. In this capacity he conducted an active balance of payments program, promoting American exports of industrial, military, and agricultural goods, while maintaining a concern for programs and issues in which American interests were

affected by NATO and European Common Market decisions. For his service, the State Department awarded him the Superior Honor Award.

A composer of music, Mr. Middendorf wrote a symphony for Queen Juliana of the Netherlands which was performed over Dutch national television. Since coming to the Pentagon, he has written several marches for the Navy and Marine Corps.

President Nixon appointed Mr. Middendorf as Under Secretary of the Navy in 1973; he was sworn into office on 3 Aug 1973 by Secretary of Defense Schlesinger. Eight months later he advanced to Acting Secretary of the Navy. If confirmed by the Senate, he will become the 62nd SECNAV.



NOMINEE.—J. William Middendorf II has been nominated as the next Secretary of the Navy. He was sworn into office as Under Secretary of the Navy on 3 Aug 1973, the first Under Secretary to hold a naval science degree. 🍀

ERNST LUNDELL NAMED BUMED COMPTROLLER

Mr. Ernst D. Lundell has been named comptroller and director of the comptroller division of the Bureau of Medicine and Surgery (Code 46). His appointment marks his return to the Navy after 17 years with the General Dynamics Corporation, most recently as director of marine systems on the corporate staff in Washington, D.C.

Mr. Lundell's previous government experience includes service as director of progress reports and statistics, Office of the Navy Comptroller. During World War II, he was an officer in the U.S. Army.

Mr. Lundell received his degree in business administration at the University of Maryland.—BUMED, Code 14.☞

POLYPRESCRIPTION FORMS AVAILABLE

BUMED NOTICE 6710 of 24 Oct 1973 announced the availability of new NAVMED 6710/6 polyprescription forms (stock number 0105-226-7190) through the Navy Supply System.

The new form is designed for use when more than one prescription for noncontrolled substances must be written for a patient. The form eliminates the need to repeat certain patient information for each prescription, and is spot carbonized so that data can be transcribed onto patient-treatment forms while the prescription is being written.

Prescriptions for controlled substances must still be written on DD Form 1289, DOD Prescription, and must be limited to one item per prescription form.—BUMED, Code 44.☞

GORGAS MEMORIAL LAB OFFERS COURSE IN TROPICAL MEDICINE

A six-week course in Clinical and Research Aspects of Dermatology, Pathology, and Pediatrics in the Tropics will be offered next year at the Gorgas Memorial Laboratory, Panama City, Canal Zone. Openings are available in the sessions being conducted 24 Jan to 7 Mar 1975, and 25 Apr to 6 Jun 1975.

Navy Medical Corps officers interested in attending this course should apply to: Bureau of Medicine and Surgery (Code 316), Department of the Navy, Washington, D.C. 20372. BUMED Instruction 1520.8 should be referenced in the application.—BUMED, Code 316.☞

DENTAL CONTINUING EDUCATION COURSES SET FOR 1974-1975

Navy-sponsored continuing education courses for dental officers have been announced for academic year 1974-1975.

The Naval Graduate Dental School, National Naval Medical Center, Bethesda, Md., has scheduled the following one-week courses:

Preventive Dentistry	9-13 Sep 1974
Operative Dentistry	16-20 Sep 1974
Oral Diagnosis and Treatment Planning	30 Sep - 4 Oct 1974
Restorative Dental Materials	21-25 Oct 1974
Oral Surgery	4-8 Nov 1974
Endodontics	2-6 Dec 1974
Oral Pathology	6-10 Jan 1975
Removable Partial Dentures	13-17 Jan 1975
Fixed Partial Dentures	27-31 Jan 1975
Complete Dentures	10-14 Feb 1975
Occlusion	31 Mar - 4 Apr 1975
Periodontics	21-25 Apr 1975
Management Seminar	28 Apr - 2 May 1975

The Commandant, Eleventh Naval District will sponsor the following dental continuing education courses in the San Diego area:

Removable Partial Dentures	9-11 Sep 1974
Fixed Partial Dentures	7-9 Oct 1974
Endodontics	21-23 Oct 1974
Operative Dentistry	11-13 Nov 1974
Occlusion	2-4 Dec 1974
Oral Diagnosis	6-8 Jan 1975
Complete Dentures	20-22 Jan 1975
Oral Pathology	27-29 Jan 1975
Maxillofacial Prosthetics	24-26 Feb 1975
Oral Surgery	17-21 Mar 1975
Preventive Dentistry	31 Mar - 2 Apr 1975
Periodontics	12-14 May 1975

Participation in these courses is limited to active duty members of the Federal dental services, and Naval Reserve officers eligible for assignment to two weeks' active duty.

Naval dental officers interested in attending any of these courses should follow the application procedures indicated in the *Manual of the Medical Department*, Chapter 6, para 130.—BUMED, Code 611-1. 🇺🇸

RADM ARENTZEN RECEIVES SECOND LEGION OF MERIT

For the second time in his naval medical career, RADM Willard P. Arentzen, MC, USN has been awarded the Legion of Merit for exceptionally meritorious conduct in performing outstanding services. RADM Arentzen was cited for his service as commanding officer of Nav Hosp Portsmouth, Va., during *Operation HOMECOMING*, Feb-Apr 1973.

The citation accompanying the award noted, in part, that RADM Arentzen discharged in an exemplary and highly professional manner the many added responsibilities occasioned by the return of the former prisoners



HIGH HONORS.—RADM Roy G. Anderson, USN (left), commandant of the Fifth Naval District, presents RADM Willard P. Arentzen, MC, USN with his second Legion of Merit. RADM Arentzen was cited for his outstanding service as commanding officer of Nav Hosp Portsmouth, Va., during *Operation HOMECOMING*.

of war. Without sacrificing the high quality of service provided other patients at the hospital, RADM Arentzen effected a comprehensive medical and psychological evaluation program for the returning men.

In lieu of the medal, a gold star and an accompanying citation were presented to RADM Arentzen by RADM Roy G. Anderson, USN, commandant of the Fifth Naval District.

RADM Arentzen has left Portsmouth to assume command of the NAVREGMEDCEN San Diego, Calif.—PAO, NAVREGMEDCEN Portsmouth, Va. 🇺🇸

NNMC LAUNCHES PROJECT LABIS

Project LABIS, one of the nation's most comprehensive computerized laboratory information systems, was launched 19 Apr 1974 in the Department of Laboratory Medicine, National Naval Medical Center (NNMC), Bethesda, Md.

Laboratory data obtained through LABIS have been totally requested and reported on computers. Nurses use special cards to request tests ordered by physicians; test results are reported directly to the physician through frequent interim reports. Teleprinters report emergency laboratory results directly to intensive-care areas. A daily cumulative summary of laboratory data is provided for direct insertion into each patient's chart.

Results of tests done weeks or months earlier are made available in seconds on special television screens. Under the new system, computer printouts of laboratory data of long-term, acutely ill patients replace the numerous individual laboratory slips which previously



LABIS.—RADM R.G. Williams, Jr., MC, USN (right), commanding officer of the National Naval Medical Center, and CAPT M.J. Valaske, MC, USN (left), chairman of the NNMC Department of Laboratory Medicine, inspect part of the Navy Medical Department's new computerized laboratory information system (LABIS). (Photo by HM2 Ken Dougherty, USN.)

made charts bulky and unwieldy. Up to five days of cumulative laboratory reports are available on one page, effecting tremendous space economy.

It is anticipated that LABIS will be extended to include all naval hospitals.

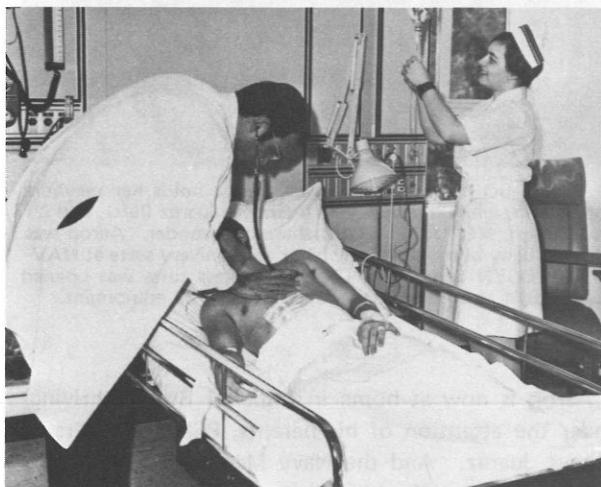
LABIS project director was CAPT Martin J. Valaske, MC, USN, chairman of the Department of Laboratory Medicine, NNMC. The system was engineered and installed by Medlab Computer Services, Inc.—PAO, NNMC, Bethesda, Md. 📻

NEW ICU/CCU OPENS AT NAVREGMEDCEN BREMERTON

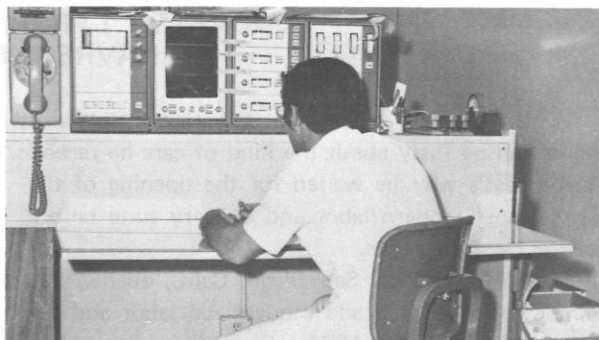
A new intensive care unit/coronary care unit (ICU/CCU) has opened at NAVREGMEDCEN Bremerton, Wash. The unit has eight private rooms, is well lighted, and is decorated in a cheerful, bright-yellow color. Windows placed on all the inside walls allow the nursing staff to observe patients closely; draperies have been added to ensure privacy when needed. A comfortable visitors' lounge is also available.

Two of the four coronary-care rooms are situated in a more tranquil area at the rear of the unit; these rooms have large windows overlooking the hospital grounds.

The coronary-care rooms are wired for central cardiac monitoring at the nurses' station. The central monitor displays cardiac activity of four patients simultaneously, via cathode-ray tube. The monitor will provide a print-out of an electrocardiogram, either on request, or automatically when a patient's condition deteriorates beyond a certain point.



INTENSIVE CARE.—LT John Tooker, MC, USNR (left) and LTJG Ellen Gallvan, NC, USN (right) check a patient in the new intensive care/cardiac care unit at NAVREGMEDCEN Bremerton, Wash.



CARDIAC MONITORING.—HN Andrew M. Wood, USN observes the cardiac activity of four patients under treatment in the cardiac care unit of NAVREGMEDCEN Bremerton. When cardiac activity deteriorates beyond a specified point, an electrocardiogram will automatically be traced on paper to provide a permanent record for future reference.

All rooms in the unit are air-conditioned to maintain ideal temperature and humidity. Room features include variable-intensity ceiling spotlights, timing clocks, ceiling-mounted tracks with movable intravenous suspension system, cardiac chairs, and special wall-mounted equipment. The ICU/CCU is also equipped with a Life Pak/33 direct current pulse defibrillator-cardioscope, and two Ivac 500 LV flow meters.

Six nurses, trained and experienced in coronary care nursing, are currently working in the ICU/CCU. They rotate on each eight-hour shift, and provide continuing on-the-job training for other staff members assigned to the wing.—PAO, NAVREGMEDCEN, Bremerton, Wash. (Photos by HM2 P. Grattan, USN.) 📻

POLYVINYL CHLORIDE TAKEN OFF MARKET

FDA recently initiated action to insure that vinyl chloride is not used in any aerosolized food, drug or cosmetic product. The FDA action was published in the 22 Apr 1974 *Federal Register*.

Vinyl chloride is a gaseous substance used to produce a type of plastic called polyvinyl chloride (PVC). It has also been used as the propellant in aerosol products. The substance has been associated with ten cases of a rare liver cancer among U.S. industrial workers exposed to the chemical over extended periods of time.

FDA will use the Drug Listing Act of 1972 to require manufacturers of drugs to provide information on any aerosolized drug products which contain vinyl chloride. The Agency has also written to all known cosmetic manufacturers requesting them to identify products which contain the substance. Recalls will be requested if necessary.—HEW Newsletter, No. 111, 17 May 1974. 📻

RENOVATED LABOR/DELIVERY SUITE OPENS AT NAVREGMEDCEN SAN DIEGO

As his delighted parents will tell you, little Aaron Juarez can be fussy about the kind of care he receives. Maybe that's why he waited for the opening of the Navy's most modern labor and delivery suite before making his appearance.

NAVREGMEDCEN San Diego, Calif., opened its completely renovated and modernized labor and delivery suite on 5 Apr 1974. Four days later, Aaron transferred his six-plus pounds from one temperature-controlled environment to another, sliding into the waiting hands of CAPT B.D. Viele, MC, USN, chairman of the Ob/Gyn Department, and instantly clamoring for the outstanding medical care to which he is entitled as a Navy dependent.

Throughout labor and delivery, Aaron's condition was monitored by an electronic central monitoring system believed to be among the most extensive in the United States. A bedside unit fed Aaron's fetal heart rate and information about his mother's uterine contractions into a central remote station, where two television-like screens, each divided into four sections, transmitted the information to the medical staff.

Monitoring equipment is located beside both beds contained in each of the suite's four labor rooms; portable monitoring units are used in the three delivery rooms. The modernized suite also has one operating room, an admission room, a father's waiting room, a lounge, an office, and watch rooms for the obstetrics staff members. The entire area is engineered for controlled temperature, humidity, and pressure.



CONTINUOUS MONITORS.—In the recently renovated labor and delivery suite at NAVREGMEDCEN San Diego, Mr. Tony Aviano (center), medical sales engineer for Hewlett-Packard, discusses operation of the central electronic monitoring system with RADM H.G. Stoecklein, MC, USN (left) and CAPT B.D. Viele, MC, USN (right). Bedside monitoring units feed fetal heart rate and mother's uterine-contraction status into this central remote station. If the fetus is experiencing some kind of distress, the information is recorded at the central station and is immediately available to the medical staff.



FIRST-BORN.—Mrs. Katherine Juarez holds her newborn son, Aaron, while husband PSNA Robert Juarez (left), and LT R.C. Smith, MC, USNR (right) share her wonder. Aaron was the first baby born in the new labor and delivery suite at NAVREGMEDCEN San Diego, Calif. The new suite was opened 5 Apr 1974 and features the latest in hospital equipment.



SUITE NEWS.—RADM H.G. Stoecklein, MC, USN (left), commanding officer of NAVREGMEDCEN San Diego, and CAPT B.D. Viele, MC, USN, chairman of the Ob/Gyn Department, open the Navy's newest and most modern labor and delivery suite. (RADM Stoecklein has now retired, and has been succeeded in command by RADM W.P. Arentzen, MC, USN.)

Aaron is now at home in Imperial Beach, thriving under the attention of his parents, PSNA and Mrs. Robert Juarez. And the Navy Medical Department stands ready to offer him all the health care he needs to grow up strong and healthy.—PAO, NAVREGMEDCEN San Diego. (Photos by PHAN J.G. Rodriguez, USN.)

NAVY PODIATRISTS KICK OFF NATIONAL FOOT-HEALTH WEEK

Navy podiatrists, whose sole job is to keep the fleet on its feet, observed National Foot Health Week on 9-15 May 1974.

At the Naval Aerospace and Regional Medical Center Branch Dispensary, NAS Pensacola, Fla., staff podiatrist CDR John D. Myers, MSC, USN saw his first patient of the week at 5 a.m. "We have to start work early because some of the aviation officer candidates have to be seen before they begin their day's training," Dr. Myers says.

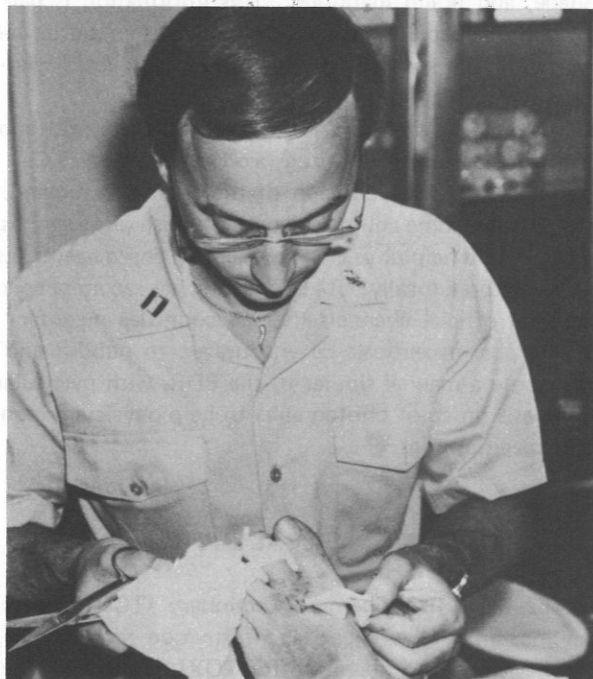
Dr. Myers thinks people are "asking for trouble" by following current fads in shoe styles. "The new shoes, with extremely elevated soles and heels higher than ever, can do lasting harm to a person's feet," he says. "We see patients who have fallen while wearing platform soles and high heels, and they have incurred bad sprains. Sometimes the sprain is so severe the patient must be referred to an orthopedist."

Dr. Myers also advises against wearing shoes without socks, and going barefoot. "Socks absorb moisture and foot odors," he notes. "Shoes prevent infections that can be acquired while walking in areas frequented by cats and dogs."

CDR J.M. Dennis, MSC, USN, head of the Podiatry Section of the Medical Service Corps, agrees that many people neglect their feet. He reports that most of the patients he sees at the Podiatry Branch of the Orthopedic Service, National Naval Medical Center, Bethesda, Md., present foot problems related to illness and deformity, rather than accidents.

"During the recent Vietnam conflict, however, we saw many military patients with foot problems caused

by excessive heat and moisture, such as immersion foot," CDR Dennis recalls. "This is in contrast to the Korean conflict, where many problems were caused by frostbite."—PAO, Nav Aerosp and Reg Med Cen, Pensacola, Fla.; PAO, NNMC, Bethesda, Md.



WRAP-UP.—LT Amedeo L. Fortuna, MSC, USNR applies a postoperative dressing to a patient's foot at NAVREGMED-CEN Camp Lejeune, N.C. LT Fortuna is one of 13 Navy podiatrists who recently observed National Foot Health Week. (Photo by HM3 R.A. Blackwell, USN.)



FOOT CARE.—CDR J.D. Myers, MSC, USN, staff podiatrist at the Naval Aerospace and Regional Medical Center Branch Dispensary, NAS Pensacola, Fla., treats a patient for verrucae plantaris. Aviation officer candidates are seen early in the morning before their day's training begins.



PODIATRISTS AT WORK.—CDR J.M. Dennis, MSC, USN (right) and LTJG F. Conroe, MSC, USNR, staff podiatrists at the National Naval Medical Center, Bethesda, Md., perform surgery to correct a patient's foot deformity.

NEED FOR BETTER IDENTIFICATION OF DRUGS

The *Physicians Desk Reference* (PDR), published annually by the Medical Economics Co., Oradell, N.J., contains the latest available information on all pharmaceuticals sold in the United States. One section features photographs that identify products by color, size, shape, and brand markings. This information is particularly valuable in emergency rooms, as an aid in determining the specific drug involved in suspected overdoses of medication.

Although other countries throughout the world publish information about drug products, RADM R.C. Laning, MC, USN, Surgeon of the Pacific Command, reports that some countries do not publish photographs which could help physicians to identify pharmaceuticals manufactured locally. RADM Laning has recommended through official channels that all countries manufacturing pharmaceuticals be encouraged to publish and distribute a manual similar to the PDR, with particular emphasis on color photographs to help physicians identify specific drugs. ☛

TOXLINE CHEMICAL DICTIONARY

The TOXLINE Chemical Dictionary (TCD), a new on-line, interactive chemical information retrieval file, has been put into operation for TOXLINE users. The TCD was built by the National Library of Medicine's Toxicology Information Program in collaboration with the Computer Sciences Division of the Oak Ridge National Laboratory and the Chemical Abstracts Service (CAS). For the 60,000 compounds uniquely identified by CAS Registry Numbers in the TOXLINE Bibliographic File, the TCD contains information such as: CAS Registry Numbers, molecular formulae, CAS-approved names, generic and trivial names. These data items were extracted from the chemical registry files of Chemical Abstracts Service. Some 15% of the TCD compound records also contain Wiswesser Line Notations.

Through access to the TCD, a TOXLINE user can find substance names associated with a CAS Registry Number, substances fitting a particular molecular formula, or trade names of products for which he has only standard nomenclature. He can also use the TCD as a tool for substructure searching through nomenclature or Wiswesser Line Notation fragments. The primary purpose of the TCD is to make it easier for users to find substance-related information in the TOXLINE Bibliographic File. Thus, results from a TCD search

can be combined with biological or other parameters in interactive searching of the TOXLINE Bibliographic File.

It is expected that the TCD will grow by some 8-12,000 substance records per year. Detailed instructions for use of the TCD have been supplied to TOXLINE subscribers. A news item describing this new interactive search tool was published in the 28 Jan 1974 issue of *Chemical & Engineering News*.—*National Library of Medicine News*, Vol. XXIX, No. 2-3, Feb-Mar 1974. ☛

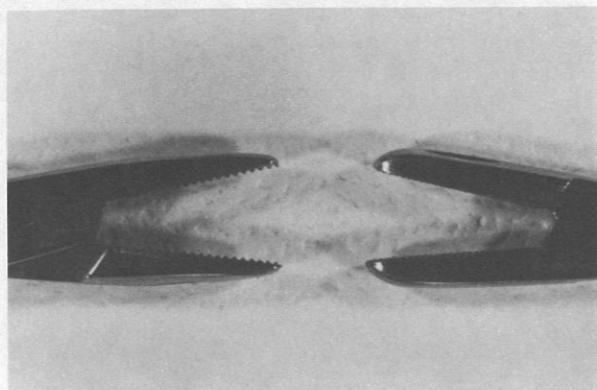
SIMPLE MODIFICATION IMPROVES COLLIER SUTURE NEEDLE HOLDER

The Collier five-inch suture needle holder appears to be the needle holder most commonly used in Navy emergency rooms and minor surgery clinics. This is understandable, since it is the most inexpensive needle holder listed in the Federal Supply Catalog.

However, the sharply serrated jaws of this instrument pose a definite problem. While sutures are being tied, these serrations frequently slice through the suture material. A physician using the Collier needle holder is therefore forced to tie sutures by hand.


Approximately \$1.60 worth of suture material is needed to repair a simple two-inch laceration when sutures are tied by hand; but only \$0.40 worth of material is needed when a needle holder is used to tie the sutures. This represents a savings of \$0.60 an inch — a practical economy when one considers the total number of inches sutured each year in naval medical facilities.

Another consideration is time: it takes a physician much longer to suture by hand than by instrument.



MODIFICATION.—The sharply serrated jaws of the Collier needle holder (left) frequently slice through suture material when sutures are being tied. This shortcoming can be eliminated (right) by grinding down the sharp edges with a file, and smoothing them with fine sandpaper.

The Collier needle holder can easily be modified to eliminate its one shortcoming. The serrations can simply be dulled by grinding the sharp edges off with a small file, and smoothing them with a piece of fine sandpaper.

The modified Collier is completely satisfactory for tying sutures, and compares favorably with the most expensive Brown and Webster needle holders.—CDR M.L. Fackler, MC, USN, chief of Surgery Department, Nav Hosp Memphis, Tenn. 

RETIREMENT PAY CNO MESSAGE 222214Z/88 MAY 74

"Recent articles by the news media have highlighted disparities which could occur as a result of certain shortcomings in the current Law governing consumer price index (CPI) adjustments to retired pay. These articles have prompted numerous inquiries from members expressing concern and uncertainty about the future prospects for retired pay. Indications are that some members may be contemplating retirement plans based on speculative information.

"The following information is provided in order to clarify the situation. Normally members can expect to receive a higher rate of retired pay if they retire after an active duty pay raise. However, because of the recent abnormal growth in the consumer price index (CPI) combined with shortcomings in present statutory provisions governing retired pay, there is a possibility this may not hold true for members retiring after the projected 1 Oct 1974 active duty pay raise. The problem is that the rapid rise in the cost of living during the past year may cause the percentage increase in CPI adjustments to retired pay to exceed the percentage increase in active duty pay raises and thus, the pay of future retirees could lag behind that of previous retirees whose pay has been CPI adjusted. To date, with the exception of certain general/flag officers who have been limited by Law to the \$36,000 salary since Jan 1972, the present statutory save-pay provision has precluded retirees from receiving less retired pay than similar members (same grade and years of service) who have previously retired. However, if the CPI growth continues, the existing save-pay provision will not guarantee this same protection to members who retire after the projected 1 Oct 1974 active duty pay raise.

"The financial impact on future retirees is difficult to predict because it is contingent upon two variables, if the corrective legislation proposed is not enacted:

(1) The percentage of the CPI adjustment projected for July 1974 — currently expected to be 6.5 percent.


(2) The percentage increase in active duty basic

pay projected for Oct 1974. This could range from 8.11 percent under present Law, to 6.2 percent if the pay raise system is modified to authorize equal percentage increases in the allowances (basic allowance for subsistence and basic allowance for quarters) as well as basic pay.

"Both of these issues must be resolved before the precise impact can be assessed. However, as a guide, the following table shows selected examples of possible retired pay loss members could experience by establishing a retirement date later than 31 Aug:

	IF 1 OCT BASIC PAY INCREASE IS 6.2 PERCENT	IF 1 OCT BASIC PAY INCREASE IS 8.11 PERCENT
O-10 over 30	203.63	203.63
O- 9 over 30	199.18	199.18
O- 8 over 30	49.23	49.23
O- 7 over 30	42.70	28.53
O- 6 over 26	32.57	21.78
O- 5 over 22	22.49	15.04
O- 4 over 20	17.15	11.48
E-9 over 30	20.38	13.65
E-8 over 26	15.68	10.47
E-7 over 22	10.61	7.09
E-6 over 20	7.99	5.35
E-5 over 20	6.72	4.47

NOTE: These computations assume a 6.5 percent CPI increase on 1 July 1974 preceding the 1 Oct pay raise.

"The Department of Defense is sponsoring legislation which eliminates the inequities and provides that future retirees will receive no less retired pay than similar members who retired before them. All services have given strong support to this legislation budget. It is the DOD objective to press for congressional approval as soon as possible. Navy personnel will be kept advised as changes occur." 

OFFICIAL INSTRUCTIONS AND DIRECTIVES

BUPERSINST 6110.2 of 24 Jan 1974

BUMEDINST 6110.10 of 24 Jan 1974

Subj: Weight control

This combined instruction alerts commands to the continuing problem of weight control among some members of the Navy. Commands must identify obese members and those who show tendencies for becoming obese, and promote a weight-consciousness policy by instituting preventive and remedial programs of weight control and physical fitness. Weight charts have been developed as one of several guidelines to follow in determining obesity.

Medical officers will participate in the command weight-control program as directed by the CO. Medical officers are specifically responsible for:

1. Monitoring and recording weight. (MANMED, art. 15-51)
2. Routinely assessing body weight at sick call and during physical examinations.
3. Evaluating obese and overweight individuals for possible underlying disease processes and fitness for duty.
4. Recommending weight-reduction goals and exercise programs, and prescribing diets.
5. Providing the CO with names of obese members, and recommending appropriate action.
6. Periodically reevaluating members participating in weight-reduction program; keeping the CO informed of progress.

Overweight Navy personnel must accept personal responsibility for weight reduction, control, and physical appearance. When personal efforts fail to produce the desired results, members should consult a medical officer in order to be placed on a prescribed diet and exercise regimen.

BUMEDINST 5600.2E of 5 Apr 1974

Subj: Professional articles; approval for publication or of incurring expenses in connection with

This instruction provides guidance for publishing professional articles, and for using funds in connection with publication.

Military and civilian personnel are generally free to publish articles subject to the requirements and restrictions of NAVREGS, 1973, art. 1116, and MANMED arts. 2-41 plus 6-33, without prior approval of BUMED,

provided the articles do not contain information about atomic energy, or thermonuclear, biological, chemical, or other forms of nonconventional warfare. Where doubt exists regarding questions of security or established policy, manuscripts may be submitted to BUMED, Code 2, for clearance.

Available funds in local allotments may be used, without reference to BUMED, to purchase reprints or to reproduce professional articles, other than official reports.

Activities not holding allotments under Appropriation, Operation and Maintenance, Navy (Medical Care) or RDT&E, must obtain prior approval from BUMED before incurring publication expenses. Articles shall be sent to Code 18, together with a detailed statement of services required, the estimated cost of each service, and the number and cost of reprints desired.

The following references apply:

NAVREGS, 1973, art. 1116, pars 1, 2, and 3.

MANMED arts. 2-41 and 6-33.

SECNAVINST 5215.1C, Directives Issuance System, part II, par 3d.

NAVSO P-1035, U.S. Navy Public Affairs Regulations, art. D-1703.

BUMEDINST 1500.12 of 24 Apr 1974

Subj: Navy race relations education

This instruction directs commanding officers of naval regional medical and dental centers to coordinate the race relations education program for their subordinate commands and components. Coordination shall include requesting education assistance from a Human Resources Development Center (HRDC), scheduling executive and UPWARD seminars, and monitoring affirmative action plans.

Requests for training quotas for racial awareness facilitators (RAF) shall be addressed via the chain-of-command and BUMED (Code 16). Requests for race relations education specialist assistance shall be submitted via the chain-of-command and BUMED (Code 16) to the HRDC at Newport, Norfolk, San Diego, or Pearl Harbor; or the Naval Air Technical Training Center, Memphis; or Naval Amphibious School, Coronado, Calif.

Medical Department commands not designated as part of a regional medical center and not designating a RAF team shall arrange to receive race relations

education training from an activity with a race relations education program.

Command affirmative action plans shall be forwarded to BUMED (Code 16) for approval. An affirmative action plan progress file will be maintained at each command for review by the Inspector General, Medical, or the Inspector General, Dental.

BUMEDINST 6322.6D of 14 Feb 1974

Subj: The Uniformed Services Health Benefits Program outside the United States, Puerto Rico, Canada, and Mexico

This instruction prescribes procedures for payment of authorized medical and dental care furnished eligible beneficiaries of the Navy and Marine Corps, other than active-duty members, by civilian physicians and hospitals outside the United States, Puerto Rico, Canada, and Mexico.

Spouses and children of active-duty members residing with the active-duty sponsor outside the areas listed above may elect to receive inpatient care from civilian sources under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) when medical facilities of the uniformed services are nonexistent, not within a reasonable distance of the dependent's residence, or not capable of providing the needed care. These determinations are made by the oversea commander and the hospital commander.

Cognizant command authorities are specified herein, and are responsible for the review, approval or disapproval, or other disposition of bills for civilian medical and dental care furnished eligible beneficiaries in the areas under their jurisdiction. This responsibility may be exercised through a designated medical department officer, or other responsible person designated by the command.

Bills and claims shall be paid by the disbursing officer serving the approved authority, or as otherwise provided. The charges due from a patient will normally be paid by the patient or sponsor direct to the hospital or physician. If payment is made by the Government for the total charges, the amount due from the patient shall be promptly deposited with the disbursing officer who will take appropriate action. Claims for reimbursement shall be submitted to the sponsor's CO, along with required documentation. Questionable claims for reimbursement shall be forwarded to the Chief, Bureau of Medicine and Surgery for final determination.

All expenses approved for payment shall be charged in accordance with the accounting classification code

specified in chapter 4, Financial Management of Resources, NAVSO-P-3006.

BUMEDINST 6300.3 of 1 Mar 1974 (CH-2)

Subj: Inpatient Data System

This instruction describes the following recent changes in reporting inpatient workload and morbidity data:

Nonregionalized medical treatment facilities assigned as satellite facilities are relieved of reporting responsibilities contained in basic BUMEDINST 6300.3, and are assigned reporting responsibilities in accordance with BUMEDINST 6300.4.

Diagnostic terminology for mental disorders will hereafter be based on the nomenclature in *Diagnostic and Statistical Manual of Mental Disorders* (DSM-II).

The term "improper use of drugs" is reserved for description of casual or experimental use of drugs for the purpose of obtaining a psychopharmacological effect; it must not be used to describe attempted suicide or accidental overdose of prescribed medication.

Patients transferred to drug rehabilitation centers and BUPERS-managed alcohol rehabilitation centers (excluding Nav Hosp Long Beach) should receive a disposition of "discharged" rather than "transferred," so that a final disposition will be on record.

Additional professional service codes have been established for facilities with a Family Practice Service.

BUMEDNOTE 6270 of 18 Mar 1974

Subj: Spray adhesives; hazards of

Certain spray adhesives classed as banned hazardous substances under the Consumer Product Safety Commission (CPSC) of 1973 are no longer labeled as such. Subsequent research findings have not confirmed the preliminary data on which the ban was based; therefore, the ban on the 13 spray adhesives (listed in the enclosure to BUMEDNOTE 6270 of 13 Nov 1973) is no longer in effect.

Commands and personnel are reminded that the CPSC ban was prompted by the potential for chromosome damage thought to be caused by these spray adhesives. Their potential for causing other health problems is still a consideration. They should be used only in well-ventilated areas. Industrial procedures requiring the application of spray adhesives should be evaluated by an industrial hygienist to insure the adequacy of health-protective measures.

Subj: Medical Service Outpatient Card

A standard size, CR50, Medical Service Outpatient Card (FSN 7530-00-105-0101) is now stocked in the Defense Supply System for the three military services. The unit price is 0.0135 cents; this is significantly lower than the price of similar cards available commercially. The Medical Service Outpatient Card is included on the Navy Materiel Management Supply List and can be obtained through normal requisitioning procedures in boxes of 1,000 at a cost of \$13.50 per box. However, facilities currently using the larger size CR80 plastic card *are not encouraged* to convert to the smaller CR50 card. Use of a common-purpose, embossable ID card for military personnel and their dependents is now being studied within the Department of Defense; if adopted, the common-purpose ID card is expected to be the same size as the present CR80 card.

BUMEDNOTE 2700 of 11 Apr 1974

Subj: Indicia cost management and use of special mail services

The Chief of Naval Operations has directed a reduction on the high cost of the official mail program within the Department of the Navy, and has established the following policy:

- *Air Mail* is not authorized for letters, postcards, flats or parcels weighing less than 12 ounces.
- *Certified Mail*
 1. Authorized only for transmission of confidential material to facilities cleared for access to classified information under the Defense Industrial Security Program.
 2. Authorized when required by law or when deemed absolutely essential.
 3. Will not be used merely to obtain proof of mailing or receipt.
- *Special Handling, Special Delivery, and Insured Mail* are not authorized for use in the Department of the Navy.
- *Directives and Periodicals*
 1. Shall be sent "third class" if package weighs less than 16 ounces.
 2. Shall be sent "special fourth class rate — book" if package weighs 16 ounces or more.

Subj: Vision standards for submarine personnel

This notice reflects the relaxation of physical standards for submarine personnel made possible by advancements in submarine technology and increased billet specialization. The following standards are effective immediately:

Officers (except Staff Corps Officers)

1. Visual acuity: any degree correctable to 100% BVE.
2. Refractive error:
 - (a) may not exceed ± 4.50 D spherical equivalent.
 - (b) may not exceed ± 2.00 D cylindrical correction.

Staff Corps Officers

1. Visual acuity: any degree correctable to 90% BVE.
2. Refractive error:
 - (a) may not exceed ± 5.50 D sphere.
 - (b) may not exceed ± 3.00 D cylindrical correction.

Quartermasters and Nonrated Enlisted Personnel Not Designated as Strikers

1. Visual acuity: any degree correctable to 100% BVE.
2. Refractive error:
 - (a) may not exceed ± 4.50 D spherical equivalent.
 - (b) may not exceed ± 2.00 D cylindrical correction.

Rated Enlisted Personnel and Designated Strikers (except QM)

1. Visual acuity: any degree correctable to 90% BVE.
2. Refractive error:
 - (a) may not exceed ± 5.50 D sphere.
 - (b) may not exceed ± 3.00 D cylindrical correction.

An individual previously considered physically unqualified for submarine duty because of defective vision may now be found physically qualified if: (1) Vision standards herein addressed were the only disqualifying factors; (2) He is qualified under the new standards; and (3) The initial SF88, on the basis of which he was previously disqualified, is present in his health record.

BUMEDNOTE 1520 of 18 Apr 1974

Subj: FY 1976 Residency/Fellowship Training Programs; announcement of

Selected naval medical facilities offer fully accredited residency training programs in 21 separate medical specialties (see chart, page 52). A limited number of positions are available for training in civilian institutions in specialties for which no inservice training program is offered.

Medical Corps officers interested in training programs beginning in Fiscal Year 1976 should apply before 15 Aug 1974. Procedures for preparing and submitting requests are contained in BUMEDINST 1520.10F of 5 June 1972. Officers will be notified in Oct 1974 of the action taken on their request.

BUMEDNOTE 5726 of 18 Apr 1974

Subj: Medical Exploring

The Medical Explorer Program of the Boy Scouts of America offers boys and girls the opportunity to explore careers in medicine and related ancillary health-care fields. Navy Medical Department personnel are urged to provide full support to this valuable program in order to increase public awareness of the Navy's role in health care, and to stimulate interest in careers in Navy medicine. Liaison should be established with local scouting councils, which have been advised of Navy interest in the program. Indoctrination programs should be developed to inform young people about various health careers.

For more information or assistance, call: COMNAV-CRUITCOM, Youth Programs Coordinator, Autovon 222-4795; commercial (202) 692-4795.

BUMEDNOTE 1500 of 24 Apr 1974

Subj: Institute on Occupational Hearing Loss

The 22nd Annual Institute on Occupational Hearing Loss will be held at Colby College, Waterville, Maine, 4-10 Aug 1974. The Institute is designed to enable medical officers, ENT specialists, industrial hygienists, nurses, managers, and legal and safety personnel to recognize and assess noise hazards, prevent noise-induced disability, and establish and conduct hearing-conservation programs.

Participation in this activity is acceptable for 37 hours' credit in Category I for the Physician's Recog-

nition Award of the American Medical Association. The Institute also complies with the requirements of the American Council for Certification in Hearing Conservation; those who pass the examinations will be eligible for certification by this council.

The Institute fee of \$375 covers tuition, dormitory lodgings, meals, and a reception. Facilities are available to accommodate families. For further information and reservations, write: Robert H. Kany, Director, Division of Special Programs, Colby College, Waterville, Maine 04901.

BUMEDNOTE 6150 of 30 Apr 1974

Subj: Incorporating the Bureau medical records with the health records of active duty personnel; procedures for

Since the implementation of the Master Medical Record concept in Jan 1972, field activities have maintained a cumulative medical record of a member's physical conditions and treatments received. However, many of these records are incomplete, lacking the information which in the past was forwarded to BUMED when a member reenlisted or underwent a periodic physical examination.

BUMED is returning to each command medical records of members who were on active duty prior to 1 Jan 1972. BUMED records should be incorporated into the member's Master Medical Record. Duplicate copies of information should be destroyed.

If a member has separated from naval service, his medical record should be returned to BUMED (Code 334) with notation of date of separation. Records of members detached due to orders should be forwarded to the new permanent-duty station, together with a copy of the letter received with the medical records. A copy of the forwarding letter of transmittal should be sent to BUMED (Code 334).

BUMEDNOTE 6760 of 15 May 1974

Subj: Medical X-ray Film Jackets, Forms NAVMED 6760/0 thru 6760/9; availability of

Color-coded medical X-ray film jackets (Forms NAVMED 6760/0-9) are now available at \$2.00 per set of 10 forms, or \$0.20 per jacket. Medical facilities may order a 90-day supply of forms from stock points at Charleston, S.C.; Norfolk, Va.; Philadelphia, Pa.; San Diego, Calif.; or Oakland, Calif.

18 April 1974

**RESIDENCIES/FELLOWSHIPS IN NAVAL ACTIVITIES INDICATING POSITIONS
AT EACH YEAR LEVEL BY ACTIVITY**

	Years of training offered	Number of positions each year	BETHESDA	CAMP PENDLETON	CHARLESTON	JACKSONVILLE	OAKLAND	PENSACOLA	PHILADELPHIA	PORTSMOUTH, VA.	SAN DIEGO	OTHER
Aerospace Medicine	3	6						6				
Anesthesiology	3	21	4				4		3	4	6	
Anesthesiology Research	2	1	1									
Dermatology	3	9	2						3		4	
Family Practice	3	22		6	6	6		4				
Hand Surgery	1	1									1	
Internal Medicine and Subspecialties	4	36	6				4		6	8	*12	
Cardiovascular Disease	2	5	2						1		2	
Clinical Immunology & Allergy	2	1	1									
Endocrinology & Metabolism	2	2	1				1					
Gastroenterology	2	4	1						2		1	
Hematology/Oncology	2	5	1						2		2	
Nephrology	2	1								1		
Pulmonary Diseases	2	4	1							1	2	
Neurology	3	3	3									
Nuclear Medicine	2	2	2									
Obstetrics & Gynecology	4	18	3				3		2	6	4	
Gynecologic Endocrinology	2	1					1					
Occupational Medicine	3	1										1
Ophthalmology	3	10	3				2		2		3	
Orthopedic Surgery	4	14	2				3		2	3	4	
Otolaryngology	4	10	2				3		2		3	
Pathology	4	10	3				2			2	3	
Pediatrics	3	18	3				3		2	5	5	
Plastic Surgery	2	1	1									
Preventive Medicine (General)	3	1										1
Psychiatry	3	11	4				3		4			
Radiology	3	17	4				3		3		7	
Surgery	4	16	3				3		2	4	4	
Peripheral Vascular Surgery	1	1									1	
Surgical Research	2	1	1									
Thoracic & CV Surgery	2	3	1								2	
Urology	4	7	1				1		1	2	2	
TOTALS:		263	56	6	6	6	36	10	37	36	68	2

*This is a three year program. ☞

✠ In Memoriam ✠

RADM Ogden D. King, MC, USN (Ret.), naval surgeon and decorated veteran of both World Wars, died 6 May at Bethesda Naval Hospital, National Naval Medical Center, Bethesda, Md. He was 86 years old.

Dr. King was born in Albemarle, N.C., on 15 Sep 1888. He attended Virginia Military Institute, and in 1914 received his M.D. degree from the University of Virginia. For the next two years he was resident surgeon at Providence Hospital, Washington, D.C., before being commissioned a LTJG in the Navy Medical Corps on 5 Jun 1916.

After graduating from the Navy Medical School in 1917, Dr. King served with the U.S. Marines in France during WWI, taking part in all Marine engagements. He was awarded the Navy Cross for extraordinary heroism in action near the Bois de Belleau. The Army awarded him the Silver Star Medal, and the Distinguished Service Cross for "valuable service at the Regimental Aid Station of the 6th Machine Gun Battalion, Fourth Brigade, U.S. Marine Corps, 6-10 Jun 1918." This battalion was also awarded the French Fourragere unit citation by the French Government.

In 1919, after the war, Dr. King took a postgraduate course in surgery at the University of Toulouse, France; he continued his studies at the Mayo Clinic in Rochester, N.Y., until 1921, and took additional postgraduate courses at the University of Pennsylvania 10 years later.

During his Navy career, Dr. King served successively in the USS *Connecticut*, USS *Melville*, and USS *Texas*. He was medical officer in the USS *Tacoma* in 1924 when the ship was wrecked off Veracruz, Mexico. For his work during this disaster, Dr. King received a Letter of Commendation from the Secretary of the Navy.

In addition to his sea duty, Dr. King served as a member of the staff at many naval hospitals and medical facilities, including those at: Annapolis, Md.; New York City; Great Lakes, Ill.; Pensacola, Fla.; Jacksonville, Fla.; Port-au-Prince, Haiti; Guantanamo Bay, Cuba; Canacao, Philippine Islands; and Shanghai, China.

In 1941, at the time of the Japanese attack on Pearl Harbor, Dr. King was on the staff of Commander Destroyers, Battle Forces, Pacific Fleet. After witnessing the devastation inflicted on the fleet, he joined the staff in the hospital ship USS *Mercy* to treat the casualties. He subsequently served as District Medical Officer, 15th Naval District, Balboa, Canal Zone. During the latter part of the war, he became the commander of Nav Hosp Charleston, S.C., where his plans for a rehabilitation program earned him a Letter of Commendation with Ribbon from the Secretary of the Navy.

During 1947, Dr. King served as district medical officer of the First Naval District, Boston, Mass., and was then ordered to duty as medical officer in command of the Naval Dispensary in Washington, D.C. Dr. King's name was placed on the Retired List on 1 Oct 1950, at which time he was promoted to the rank of RADM on the basis of combat awards.

In addition to the Navy Cross, Distinguished Service Cross (Army), and Silver Star Medal (Army), RADM King held the: WWI Victory Medal with five Stars, American Defense Service Medal with Fleet Clasp, American Campaign Medal, Asiatic-Pacific Campaign Medal with one engagement Star, and WWII Victory Medal. He was a Fellow of the American College of Surgeons.

CAPT Richard E. Luehrs, MC, USN, whose 32-year Navy medical career was distinguished by many outstanding contributions to aviation safety, died 19 May at Nav Hosp Portsmouth, Va. He was 57 years old.

A native of Ontario, Ore., Dr. Luehrs graduated from Oregon State University, received his M.D. degree from the University of Oregon in 1946, and was designated a naval flight surgeon in 1948 upon graduation from the Naval School of Aviation Medicine, Pensacola, Fla. From 1949 to 1952, he served as a flight surgeon in ten different aircraft carriers.

Dr. Luehrs subsequently returned to the Naval School of Aviation Medicine where, for four years, he was an instructor in aviation physiology. During this time he developed and organized the school's first courses in aviation safety, aircraft accident investigation, and operational aviation medicine for student flight surgeons. He developed the first aviation crash-investigation site to provide practical, on-the-scene accident investigation training, and also developed a portable aircraft accident investigation truck for use at Pensacola. In addition, Dr. Luehrs explored the use of electroencephalography as an objective means of identifying potential accident victims.

From 1957 to 1963, Dr. Luehrs was medical officer in the aircraft carriers USS *Forrestal* and USS *Enterprise*. He also participated in the Mercury Astronaut Recovery Program in 1962.

Dr. Luehrs subsequently became head of the aeromedical department at the Naval Safety Center, Norfolk, Va., and directed the medical group which worked to establish common definitions, terminology, and coding information for the use of Navy, Army and Air Force medical officers in reporting aircraft

accidents. While at Norfolk, Dr. Luehrs was awarded the 1965 Harry G. Moseley Award by the Aerospace Medical Association, in recognition of his outstanding contributions to flight safety.

Dr. Luehrs was wing surgeon of the 1st Marine Air Wing in Vietnam from 1968 to 1969. He then became surgeon of the Fleet Marine Force, Pacific Headquarters, Honolulu, Hawaii, until 1972 when he became The Medical Officer for the Marine Corps Headquarters, Washington, D.C. In Sep 1973 he was appointed senior medical officer at the Naval Air Facility, Andrews Air Force Base, Camp Springs, Md., a position he held until hospitalized at Nav Hosp Portsmouth, Va., in Jan 1974.

CAPT Luehrs was awarded the Silver Star, Bronze Star, Legion of Merit with Combat "V," five Air Medals, and the Navy Commendation Medal with Combat "V." He also held: the Combat Action Ribbon with Presidential Unit Citation, American Campaign Medal, and WWII Victory Medal. He was a Diplomate in Aviation Medicine of the American Board of Preventive Medicine, and the American College of Preventive Medicine. He was elected a Fellow of the Aerospace Medical Association in 1964, and was active on several Association committees.

CAPT Luehrs is survived by his widow, Frances, of 5611 Greenfield Dr., N., Portsmouth, Va. He also



CAPT Richard E. Luehrs, MC, USN
1916-1974

leaves two daughters, three sons, countless friends and admirers, and an infinite number of aviation personnel who will benefit for years to come from CAPT Luehrs' labors in the field of aviation safety.

CAPT Richard R. Troxell, DC, USN (Ret.) died 12 Apr at the National Naval Medical Center, Bethesda, Md. Born on 18 Jul 1923 in Kansas City, Mo., he received his B.S. degree from Northwestern University in 1943, and his D.D.S. degree from Northwestern University Dental School in 1946.

Dr. Troxell was commissioned a LTJG in the U.S. Naval Reserve on 4 Nov 1946, and was ordered to NAS Pensacola, Fla., for duty as assistant dental officer. He subsequently served as assistant dental officer at Naval Auxiliary Air Stations, Saufley and Corry Fields, Pensacola. In Jan 1948 he was commissioned in the U.S. Navy Dental Corps.

Dr. Troxell became dental officer at the Naval Security Station Guam, M.I., in Jan 1949. The following year he attended a general postgraduate course at the Naval Dental School, National Naval Medical Center. He then became assistant dental officer at the Naval Security Station Washington, D.C., and later served as assistant dental officer in the USS *Franklin D. Roosevelt*, and as dental officer in the USS *Siboney*.

CAPT Troxell became an instructor in restorative dentures at the Naval Dental School in 1955. Four years later, he was appointed head of the dental department in the USS *Everglades* (AD-24). In 1961 he was selected to be the first U.S. officer to serve as an exchange instructor to the Royal Canadian Dental Corps School at Camp Borden, Ontario, Canada; during his second year at the school, he was chief instructor.

In Sep 1963 CAPT Troxell returned to the Naval Dental School as head of the Department of Enlisted Education. In 1966 he became a member of the Defense Medical Materiel Board, Washington, D.C., and he retired from active duty in Dec 1970.

CAPT Troxell was a Fellow of the American College of Dentists, and a member of the American Dental Association, American Academy of Gold Foil Operators, Francis B. Vedder Society of Crown and Bridge Prosthodontics, and Delta Sigma Delta. He was a member of the board of directors (1961-1963) of the American Academy of Crown and Bridge Prosthodontics, and was also an active member of Toastmasters International.

CAPT Troxell held the American Campaign Medal, WWII Victory Medal, Navy Occupation Service Medal, and National Defense Service Medal.

He is survived by his widow, Jeanette, who resides at 4819 Broad Brook Dr., Bethesda, Md. 🇺🇸

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ENS BRIERE SCORES HIT.—Health Benefits Counselor ENS Gerald P. Briere, MSC, USN (left) receives thanks from 4-year-old Mary Agnes Buckalew, an unconscious plastic-bag victim carried into the hospital by her mother on 6 May. For his quick and decisive action in averting a tragedy, ENS Briere was recently cited by CAPT Neil V. White, MC, USN, CO, Nav Hosp Pensacola. Mary Agnes was discharged from the hospital, in good health, the day after the incident. Attending the commendation presentation with Mary Agnes were (from left to right): Mrs. Buckalew; S/SGT Raymond W. Buckalew, USMC (Ret.); and Jeannete Buckalew.—PAO, Nav Aerosp & Reg Med Center, Pensacola, Fla.

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